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Exegesis Project Title:

‘Impressions from Virtual Landscapes’

Name of Candidate:

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Project Title:

‘Impressions from virtual landscapes’

Brief Description:

The aim of this project is to build and render digital landscape models that reflect natural element characteristics and use the resulting data sets as source material for fine art investigation and production. The project will utilise 3D computer modelling techniques, selected output technology and studio facilities. Computer-generated virtual landscapes material will be incorporated into studio practice by providing observed environmental content for the development of works for exhibition. An accompanying exegesis will explore the relationship and tensions between digital landscape data sets and the broader use of landscape as a motif within an Australian context.

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Project Proposal

The aim of this project is to build and render digital landscape models that reflect natural element characteristics and use the resulting data sets as source material for fine art investigation and production. The project employs 3D computer modelling techniques, selected output technology and studio facilities.

Virtual landscape observations will be used as subject matter in the creation of studio products for exhibition. An accompanying exegesis will explore the relationship and tensions between digital landscape data sets and the broader use of landscape as a motif within an Australian context.

By using digital landscape as a motif this research will examine artist defined topography content . It will create and examine data sets to establish new forms of landscape art.

Although debates about what constitutes a landscape motif and its genre are worthy of separate investigation this project will concentrate on the practical translation issues. It will explore digital landscape creations, their incumbent values and identify where personal intuitive cues can impact on the character of the digital models. The findings can be leveraged as original source material for the making of fine art that is not completely dependant on external landscape experiences .

There is considerable appeal in inventing virgin sets of realistically cued elements in an artificial and scaleable environment. Addressing the questions of what legacies and preferences the conventional Australian landscape genre will have on the models and their characteristics will be matured and documented through studio investigation. Such activity requires working time to gather theoretical residue and new knowledge while remaining sensitive to the creative nuances encountered.

This research is underpinned by a personal enthusiasm for the way in which an artist can engage with new virtual environments. It will be further informed by the memories and experiences of living in an Australian country setting with its subsequent legacy of understanding from first hand knowledge.

Objectives

- Build digital landscape data sets and source subject material from the virtual models for the purpose of producing art works for exhibition utilising traditional drawing and painting mediums.
- Examine relevant aesthetic questions arising from the practical processes and develop their themes in the form of an exegesis parallel to the studio practice. For example interpreting the space, light and atmospheric characteristics as they translate from additive to subjective colour environments.
- Investigate the tension between intuitive creative legacies in the art making process as they intersect with the constraints and characteristics of digital modelling techniques. In particular the investigation and interpretation of new metaphors in landscape genre and related art making activity.

Research Questions

- What influence will digital landscape source material have on the formation of pictorial landscape characteristics when transcribed into studio based art making activities ?
- How can traditional metaphors of landscape genre effect the characteristics used in the creation of digital landscape models?
- What role will personal aesthetic values play in the use of computer-generated subject matter when employed to create landscape forms of artwork in a studio process?

Rationale

A strong legacy of previous personal investigation into digital landscape modelling has provided some initial foundation work upon which this research will be conducted. As the residue of classical landscape compositional literacy, mainly 18th and 19th century pictorial arrangements, are melded with the constraints and characteristics of digital modelling, art making is presented with several new creative tensions.

There is a long tradition of interpreting from artist-composed source material with many notable practitioners refining and experimenting with several techniques.¹ From small still life arrangements, miniature stages, wax models to grand scale opera set constructions, a great variety of methods have been employed. Examples of such activities can be witnessed in the formal work by Poussin, Lorrain (Claude) and to some extent even Cézanne's² mental constructs taken from natural observations. More recent examples can be seen in the work of Anselm Kiefer where he investigates the use of new landscape source material drawing on recent German history, cosmology and religious ideas.³ By contrast, Richard Long continues a traditional in the romanticism of landscape subject engagement and highlights Turner's approach.

Through Australian Impressionism and its contributions to our cultural sovereignty, (our perception of unique Australian national characteristics), we can trace variations in the usage of staged metaphors in local subject interpretation. The production methods employed often made use of 'studio piece' systems based on external source research and practice, for example in the work of Tom Roberts. Such paintings as *Bailed up*, 1895 and *A Battery Field Artillery, New South Wales*, 1896⁴ demonstrate the almost theatrical use of source material to present national themes⁵. A compositional licence was deployed to explore and test the limits of perception, by using natural source material and visual cues aimed at suspending the viewers reading of the elements and characteristics. Roberts created images that are credible yet are full of artist defined arrangements to realize the final 'nationalistic' charged images.

Although this research is not targeting national political issues, several relevant topics still exist which will be engaged in to complement and refine the focus of personal involvement and the way we harness such visual legacies. To engage with recent themes of Australian landscape interpretation via a 'terra nullius' theory or for that matter, the

¹ Hans J. Van Miegroet *Still Life* -The Grove Dictionary of Art Online, ed. L. Macy
<http://www.groveart.com>

² Richard Verdi, 1990, *Cézanne and Poussin: The Classical Vision of Landscape*
National Gallery of Scotland in Association with Lund Humphries Publishers, London

³ Delia Ciuha, (ed.) 2001, *Anselm Kiefer. the Seven Heavenly Places*
Fondation Beyerler Hatje Cantz, Ostfildern-Ruit Germany

⁴ Ron Radford, 1996, *Tom Roberts*
National Library Publications, Australia

⁵ Bernard Smith, 1991, *Australian Painting 1788-1990*
Oxford University Press, Melbourne. pp.84-92

older subject of 'master and mistress' relationship in taming 'the bush' via painting themes, leads to other topical, political and cultural questions. An example is the former and current use of traditional landscape images in picture making for national purposes.⁶ That is the deliberate use of political themes to promote social issues through art criticism. If we query the debates further and pursue a relevance based on personal landscape readings utilizing the western art legacy, a window still exists through which we can approach a continuation of landscape traditions. An engagement on an individual basis using 'Australian' generated, styled, and located digital virtual environments'. The deployment of art making skills in response to this new space and the generation of original responses from such artist defined activity is clearly a rich production spring.

Broad questions surround the influences of visual motifs and their perceived relationships to digital space when exploring new feedback systems. Virtual space perception is being investigated and tested by many artists. Numerous practitioners are attempting to resolve the deeper interactive and contextual issues of non-linear environments as they converge with our knowledge based worlds. Interpreting from the not so spectacular residue may throw some light on how we can better relate creatively to larger global-networked virtual environments. Liberating the source content from software fingerprinting is also something that requires consideration. The search for greater medium transparency will expose more refined artificial environments from which raw content will be collected.

Creating digital landscapes using computer technology has exercised the minds of several notable pioneers of the medium and inspired the rapid uptake of such techniques by artists. For example, in the early 1980s, Philip Pearlstien, Andy Warhol, David Hockney⁷ and the Australian painter Sydney Nolan all embarked on a formal engagement with early computer art. Using mainly bit mapped raster and some vector graphics techniques harnessed via video interfaces and through interactive input devices, mainstream artists entered the new field.

However it was artists who evolved within the computer industry such as David Ems, Charles Csurí, Michael Collery and Richard Voss who really began to push the technology frontiers in 3D graphics. The birth of the first digital landscape models was oddly enough a 'natural' development. By exploiting a fractal mathematics formula known as the 'Mandelbrot set' artists produced computer-generated elements with random forms. It allowed the early explorers to examine a raft of new phenomena and what came to be later termed, virtual environments. Voss created *Changing the Fractal Dimension* in 1983 visualising what had until then been impossible to manifest or demonstrate.⁸

Some notable high points of this development were collaborative projects such as Michael Scilli, James Arvo and Melissa White who created *Quest, a Long Ray's journey*

⁶ Martin Thomas, 1999, *Uncertain Ground: essays between art and nature –the Edge of the Trees at the end of the Millenium* . Art Gallery of New South Wales, Australia

Several essays presenting recent sociological and politic based Australian landscape art theories.

⁷ Cynthia Goodman, 1987, *Digital Visions*

Harry N Abrams Inc., NewYork USA.

⁸ Joseph Denkin, 1983, *Computer Images -State of the Art*
Thames and Hudson, London UK

into Night 1985.⁹ A short piece of ray traced computer animation that demonstrated the power of the mind to expand and engage in virtual environments that challenged the known norm of spatial visual senses. Another powerful 3D computer graphic composite aimed at addressing the challenge of creating a realistic cued digital landscape was the acclaimed piece *The Road to Point Reyes* 1986 by the noted team of Loren Carpenter, Tom Porter, Bill Reeves, David Salesin and Alvey Ray Smith.¹⁰ Many of these developments were harnessed by the film, media and games industries and applied to commercial production industry in a variety of ways. Sutherland's flight simulation technology opened the door to immersion and virtual environment developments and generated many fine examples of 'landscape' cued digital media.

In Australia we witnessed a focus on the virtual environments that defined whole new worlds. In the work of Troy Innocent and Jon McCormack we can see experienced artistic expression in such pieces as Innocent's *Theory of Cyberdata* 1992 and McCormack's *Interactive Evolution of Forms* 1992. The latter explores the mutation of base forms in a computer environment, a virtual life where the users define and choose its evolutionary direction. His latter work *Turbulence, the unnatural history of an interactive museum* 1994/97 contrasts sharply with natural environments as do Innocent's work, preferring to use the technology to produce digital environments representing new characteristics and relationships to a global cyber movement.

The aim of this project is not to engage with that direction of development, it is concerned with what lies beyond virtual modernism and artificial life. In an essay by Frances Dyson, *Gasping at the New Life of Technology*¹¹ he refers us to the issue of 'natural' and 'real' as investigated through Char Davies' *Osmoses* show, a virtual reality piece exhibited in Montreal in 1995. It contained the works *Edenic* and *Tuned to Nature* that aimed to explain the positions of negotiation that the technological artistic environments occupy within our current cultural metaphors.¹² What is interesting about Davies' work is that it demonstrated the idea of finding no difference in either the physical or the virtual worlds when dealing with experience. I am interested in testing this assumption during the project.

The creative cultivation of new media motifs coupled with the simultaneous probing of how they can unite inside a body of work will shape exciting new forms of visual expression.

⁹ Annabel Jankel, - Rocky Morton, 1984, *Creative Computer Graphics* Press Syndicate University of Cambridge, UK.

¹⁰ Goodman pp. 36 -52

¹¹ Thomas, ed. selected essay

¹² Rudolf Frieling, 2000, *Media Art Interaction ZKM*

Springer-Verlag Vienna and New York

See pp.170-197, Dietmar Daniels' discourse on *Strategies of Interactivity*

Proposal Methods:

The research investigation will be undertaken in six stages, the concluding project will be a collective synthesis of the preceding investigations.

Research

The program will be developed in two parts.

1. Pre-production

Establish the characteristics and parameters of the data set components for dimensioning elements and scaling the working environment with respect to:

- *space- light and surface integration*
- *texture and surface*
- *form and structure modelling generation*
- *related technical dimensions and formats*
- *atmospheric characteristics*
- *an Australian context*
- *external landscape genre criteria*

Preliminary fabrication of trial data sets, build, render and evaluate samples.

Digital output devices will be employed to service and test output needs.

Some consideration will be given to the use of immersion technology to explore the full range of interaction possibilities with the mature data sets.

2. Studio Practice

Once acceptable environmental parameters are established, controlled digital landscape production will take place. The resulting models can then provide the source data for the process of interpreting, interrogating, observing and translating their respective characteristics by:

- *establishing observation processes*
- *testing the resulting procedures to establish transparent studio practices*
- *investigating which methods of engagement allow for intuitive responses*
- *comparing methods used by earlier artists to compose landscapes, in particular 17th and 18th Century classicism and 19th Century Romanticism*
- *using Australian landscapes and aspects of opera and stage design*
- *documenting the parallels in exegesis form via selected cases using comparing and contrasting a small group of relevant examples*

The final research will focus on refining the ‘impressions’ sourced from the virtual models and maturing the resulting work in a series of images that use traditional painting and drawing processes. The final stage will focus preparing art works for presentation accompanied by fully illustrated exegesis.

Research Schedule

Stage One - Semester One, 2000

- (a) Establish the scope and characteristics of the data sets required to create the digital models.
- (b) Research and source any relevant contemporary developments in studio practices.
- (c) Scope, analyse and test the processes required to migrate the visual data sets from source to studio product and prototype the initial concepts while also documenting the results.

Stage Two - July, 2000 - January, 2001

- (a) Build environments for the preliminary digital data sets
- (b) Survey new media production methodology and test any relevant applications
- (c) Prototype light, form and atmospheric controls.
- (d) Prototype form and surface generation and output characteristics.
- (e) Adopt suitable fabrication trial methods and test translations into traditional media.
- (f) Further research and scan other similar art making processes and document the results.
- (g) Investigate relevant Australian and European landscape models.

Stage Three - July, 2000 - July, 2001

- (a) Build the environmental data set models based on selected methods from earlier trial results.
- (b) Fine-tune the configuration of characteristics and complex atmospheric rendering techniques.
- (c) Output of source mature products for interpretation into formal media.
- (d) Establish a frame reference to observe relationships and establish a system of transparent interpretation techniques.
- (e) Test concepts and apply the source motifs in studio practice.
- (f) Trial 3D immersion system to experience and collect impressions of the data sets in an alternative mode of engagement.

Stage 4 - January, 2001 - June, 2001

- (a) Develop visual evaluation criteria for the final production phase. This process will focus on the selection of what are felt to be the more relevant and visually engaging elements that resulted from the earlier development stages.

- (b) Make revisions to the selected original data models and establish feedback loops for the purpose of pushing the dialogues and readings to more refined and expressive levels of personal engagement.
- (c) Draft exegesis commencement, relate to studio results with an examination of the hypothesis underlying the key research questions.
- (d) Conduct further contemporary research surveys into any new unforeseen areas of interest generated by the sustained integrated studio production practices.
- (e) Refine the Australian characteristics and clarify their key elements

Stage 5 - June, 2001 - October, 2002

- (a) Produce several large works on paper that employ the resulting information sets and utilise the virtual landscape experiences within the studio-based activity.
- (b) Explore and refine the painting and drawing techniques that best express and engage the source material.
- (c) Meld the environmental and experiential conclusions into concrete expressions within studio works
- (d) Refine the exegesis, obtain further professional feedback on the draft and apply the appropriate modifications

Stage 6 - October, 2002 – February, 2003

- (a) Produce the final series of practical works resulting from the project research and ready for exhibition. It is envisaged that the project will produce a substantial number of major works on paper using mixed painting and drawing media as well as some large oil paintings on canvas
- (b) Complete the final exegesis draft, notations, comments, reports and documentation relating to the final theoretical requirements.
- (c) Prepare the formal documentation to an appropriate presentation standard.
- (d) Author supporting digital material onto CD or DVD and or network environments as appropriate.

Summary of Exegesis

The research project titled “*Impressions from Virtual Landscapes*” is the study and exploration of a very specific set of creative activities exploring virtual and actual studio processes. As indicated in the proposal, it focuses on the construction and utilization of 3D (three dimension) landscape models to provide composed source material. The source material is then employed within the studio practice using predominantly formal techniques. This research is not overly concerned with new media as art nor is it merely about computer art or computer generated art processes. It is about the continuation of traditional picture making processes utilizing new forms of Australian landscape genre.

In the exegesis I have outlined the context and key issues that have been explored and illustrated how the work has evolved within a set of processes related to the use of artist defined source material. The paper explains how initial work in the field of 3D virtual landscape modelling is melded with a legacy of landscape related art making interests and enhanced by direct observations from a variety of field research activities. Classical canons of picture plane content management employing traditional golden mean principals and objective components structures are taken up within in the virtual models. By contrast, the subjective responses and intuitive associations the computer material generates via its inherent Australian content stimulates further investigations in the studio work. The exegesis also explores how experiences gained whilst living in central Victoria during my youth are drawn on to enrich the work. Both aspects inform and contribute to the research content by providing sound foundations upon which the new work has been built.

In the past thirty years a considerable body of computer art forms have evolved around the globe and a large quantity of computer generated material has been integrated into fine art making practices. Many new branches of digital fine art related disciplines have also developed within Internet communications networks and web related environments. In this project I have returned the digitally sourced material to the studio and use the traditional art making mediums of drawing and painting to explore the content that the new technology has provided. This work examines the inherent tensions between digital landscapes and such motifs within an Australian context.

It is worth noting also that Australian landscape metaphors have been employed in concert with the research questions in order to obtain a more specific, relevant, and sharper response to the research questions.

Where does this research fit within a fine art context?

Across broader spectrum of Western art making traditions and more specifically in an Australian art context this research has several important links.

- It uses formal landscape motifs as a form of expression.
- It draws on the discipline of composing subject matter as in still life traditional practice.
- It merges traditional and digital environments.
- It engages with the overarching tension between the classical and romantic traditions within Australian creative culture.
- It is concerned with traditional art making mediums and their characteristic legacies.
- It defines a new source of Australian landscape engagement.

There are many other aesthetic and contextual issues that this research touches on along the journey. The outcomes of the research although at times surprising, and with the benefit of hindsight, are not altogether unexpected. Moreover it vindicate the initial ideas behind the project. When the first proposal was drafted it was not clear what responses would evolve from the investigation nor what results could be expected. For example, the fascinating way in which our mental responses to virtual places function in much the same way as actual places. Not only did my eyes and mind respond to the visual cues in a similar fashion, but a sense of place and the quality of familiarity also became key factors. The relationship between the virtual landscapes and their inherent elements within the studio work was a necessary component to foster. By the using carefully chosen provincial characteristics to explore and test the Australian bush ethos within the virtual models further enhanced the artwork by providing challenging content.

The translation of visual cues from the virtual environment was dependent on the mood surrounding the visual connection and its subsequent transfer along with the various elements. The influence of the Australian landscape on the look and feel of composed virtual places was generally quite strong. Much of this can also be attributed to legacy factors such as local experience and a strong personal interest in Australian landscape art. The extensive use of field trips and the resulting photographic reference material skewed the focus towards the use of local characteristics as well.

I proceeded to test my reactions further by working over landscapes of earlier artists, (for example Rubens and Constable) along with reference photographs. The outcomes of this lateral study indicated that my studio responses to the virtual landscapes were not unique to virtual generated material but that similar responses could be elicited from the other sources as well. A positive outcome of this realization was that it confirmed the mental direction my studio work was moving in and indicated a maturing of current studio techniques. This demonstrated that certain continuity qualities existed between the use of composed material and clarity of the studio practice when using such content.

Over all, the resulting work established a new link between formal picture making and digital environments. It continued the tradition of still life practice via a contemporary practice. It also produced a distinctly new form of visual landscape language as a result of using Virtscape¹³ models that contain predominantly Australian characteristics.

On the theoretical side an understanding evolved demonstrating how an objective process, namely 3D digital modelling, can be charged with romantic or subjective influences. Qualities, that in this case ensued from the chosen subject matter and its inherent characteristics. The final pictures confront the visual senses and excite the optic nerves with the animated surface treatment they carry. Contrasts between implied scenes and overlapping layers of visual energy harness the viewer's mind and its ability to write its own visual conclusions from subtle cues. *Impressions from Virtual Landscapes* builds upon this dialogue and contributes a new form of expression to illuminate another aspect of the human condition.

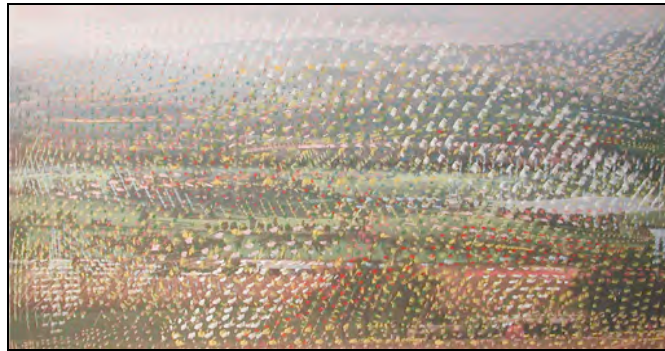
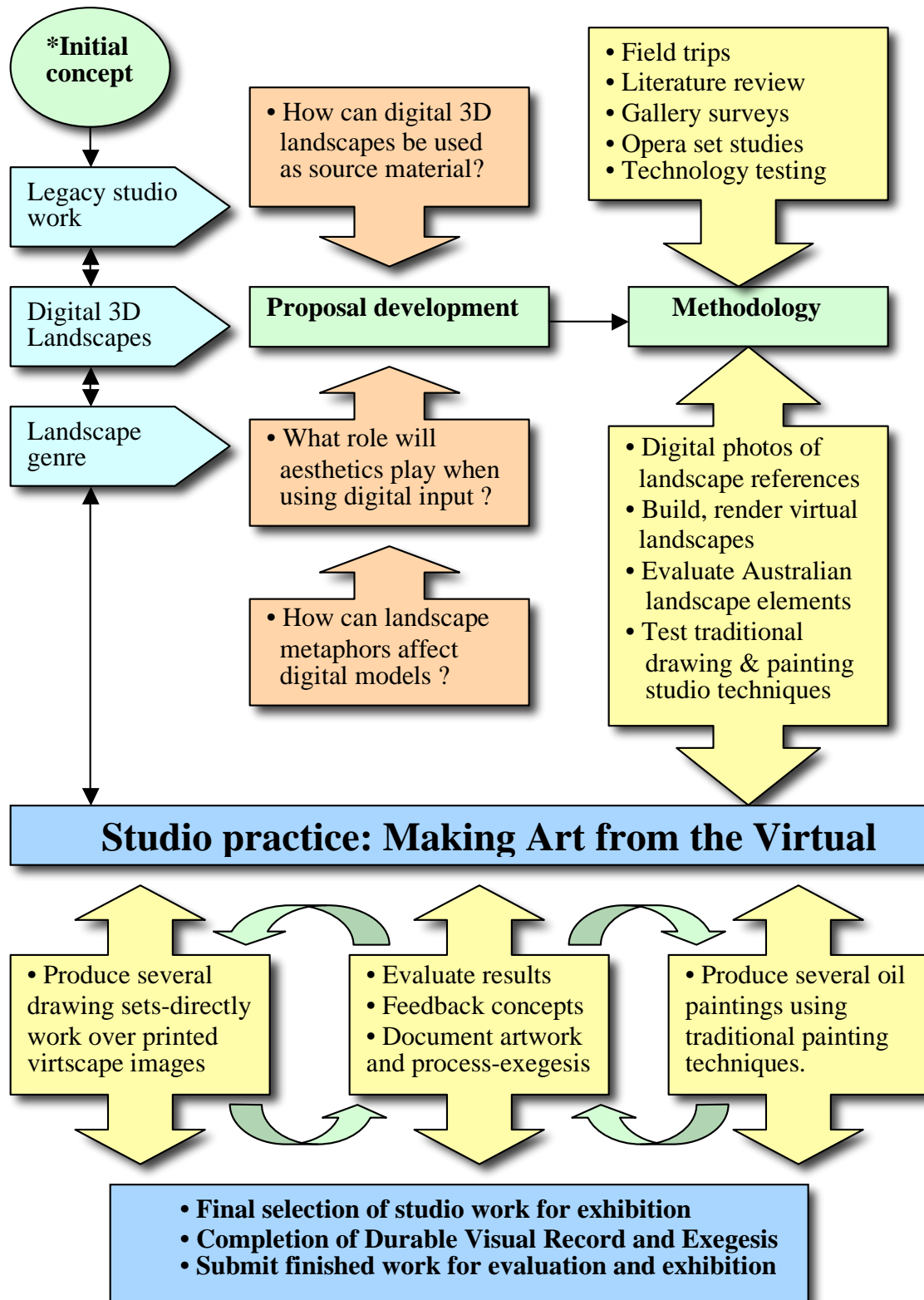


Fig.1 Neil G McMasters, *Yarra Valley* 2002,
conté pastel over inkjet on archive paper

¹³ 'Virtscape' A term I employ for data filing purposes but is also used extensively throughout the exegesis as a descriptor for the 3D digital landscape models constructed in this project.

Project methods summary and key activity links



The above graphic is an overview of the project illustrating the various contributing ingredients, key links, and a methodology summary that clarifies the total process and maps each development stage.

I. Exegesis Part One: Investigation

1 • Initial literature search

The literature search began by investigating conventional library and database sources for evidence of recent activity in the field of landscape modelling and searching for samples of similar art practices as outlined in the project proposal where comparable techniques may have been employed.

The initial results were somewhat surprising as evidence of any significant or relevant use of this type computer generated source material in art practice was limited. Very few relevant samples from within the library, journal databases and web sources investigated were unearthed. However, there was a wealth of material relating to the placement of this project in a historical context and the tradition of western landscape art. The search took two main directions, the computer related content and the discipline of landscape art. It is perhaps fitting to look at each of these in turn so firstly I will explore the computer environment and its relevance to this project then examine the traditions of landscape art making and how this process all melds together.

1.1 Literature review: Computer Generated Activity

Currently there appears to be two main streams of computer related activity.

1. The use of computers, digital capture devices and media management technology deployed for the production of various new forms of *media arts* and computer imaging for *fine art* creation.
2. A line of 3D computer modelling activity based mainly in the *film, television, and games industry*. This sector covers a large spectrum of work from very high quality 3D illustration¹⁴ to amateur 3D landscape modelling.

The issue of using computer generated landscapes as the source material for traditional art practice did not appear to be an area where any formal documented activity or evidence was readily available. That is not to say or conclude it does not exist, merely an acknowledgement that the searches did not uncover many relevant examples in this specific area.

The first stream of activity, 'new and or web related media' arts practice, currently involves a very active and innovative group of practitioners. This group exploits the evolving characteristics from the mix of new digital enabled opportunities that various virtual environments provide. Most of this activity is taking place in conjunction with advanced Information Technology developments. Digital information mobility, (hybrid cross media, image, sound, text generation, multimedia) and a raft of data management

¹⁴ In reference to: Professionals who work in industry on commercial visualization projects.

toolsets have captured the imagination of many practitioners. A desire to come to terms with the impact of recent technological developments in their respective creative environments is evident in this field.¹⁵ Image capture, image generation, image manipulation, digitally enhanced video works¹⁶, digital life forms, robotics, digital animation, virtual visualisation and reconstruction to mention but a few of the fertile areas that are occupying a considerable amount of creative focus and mainstream cultural innovation.¹⁷



Fig. 2 Martin Murphy, *Piano and Papers* © 1999, 3D interior, digital image

The second stream is an odd mixture of activity. It is divided between amateurs who like 3D modelling and skilled technical experts who generate 3D digital objects [fig.2] and landscapes for a variety of commercial purposes. A major activity of note is the 3D enhancement of the film, television and the digital games industry with its high commercial content consumption. These productions often utilize virtual landscape environments, for example 3D golf games and a raft of war simulation and combat games that exploit 3D environments. More recently web marketing and product promotion have begun to heavily exploit the use of virtual product modelling via the Internet. Urban planners, housing industry promoters, military and automobile industries [fig.3] all take advantage of recent innovative visualization products.



Fig.3 Brian Hitney, *Ferrari* ©1999, 3D product visualization sample, digital image

¹⁵ Debbie Hall, 'The Original and the Reproduction: Art in the Age of Digital Technology' *Visual Resources*. V 15 no 2 1999 p. 269-78

¹⁶ Thomas:(essay by Frances Dyson *Gasping at the New Life of Technology*)

¹⁷ Frieling: op. cit. p 57

More diverse in scope would seem to be practitioners who simply enjoy modelling and exchanging digital art and illustrations via Internet networks and informal channels. This latter group would appear to be more interested in the generation of what can loosely be termed fantasy illustration and comic environment graphics. Most exploit the commercial (special effects) software modelling tools that are available today. These activities are not overly concerned with the formal mainstream of the modern art making industries. It is evident however that many practitioners possess well developed visual literature skills and are very adept at producing high quality 3D digital environment images and animations.

Alternative applications of 3D landscape modelling tend to be in the area of architectural design enhancement¹⁸ and the digital visualization industries such as terrain modelling, flight simulation, military imaging, medical illustration and regional planning.

Of all the streams, the highly commercial film and television industry appears to be the most advanced in the sphere of realistic (virtual landscape) modelling innovation where large amounts of very expensive computing resources are deployed to generate extremely detailed and sophisticated content material. These productions are driven by media industry investment from the various entertainment industries.¹⁹



Fig.4 *Walking with Dinosaurs*, 2000 digital video frames © BBC Worldwide Ltd.²⁰

They employ many sophisticated hybrid image generating techniques, an actual and a virtual mix that I found extremely useful [fig.4]. It is similar to the way set making design and illusion creation has been employed in the past. It was also similar to the hybrid technique approach I had been working with to create 3D environments that captured my attention. By hybrid I am referring to the use of 2D (two dimensional) image maps and such techniques as layered video composites to enhance motion graphics and animation products. In my own virtual models or what I refer to at times as 'virtscapes', sets of components that carry image and texture maps are employed to build the scenes. It is a

¹⁸ Stephanie Norton, 'Digital details: a new way to access CAD details'

Landscape Architecture, 10 Oct.1999 vol.89 p. 22

¹⁹ 'Television Post production systems; Digital Post Production systems.'

American Cinematographer, V. 80 no. 8 Aug.1999

²⁰ Selected frames from BBC television series utilizing actual landscape backgrounds and high-end 3D computer graphic dinosaur model animations - hybrid compositing samples.

form of 3D compositing but all the parts are original objects and forms built using landscape modelling software and not sourced from data libraries. The aim of my environment building is to produce virtual locations [fig.5] that have specific natural characteristics and this can be achieved by employing hybrid techniques. The output is aimed at producing still source images not fly through animations.



Fig. 5 Neil G McMasters, *Water Hole 2.7*, 2001, digital Virtscape / source image

1.2 Literature review: Early Computer Art Legacies

To appreciate the historical context of this work and in particular where to place a virtual environment in order for it to be relevant in the tradition of artist defined source material, it is useful to summarise the early development of computer art.

Creating digital images for artwork using computer technology has exercised the minds of several notable pioneers of the medium. A rapid uptake of new techniques in the early 1980s by artists such as Philip Pearlstien, Andy Warhol, David Hockney, and even Sydney Nolan²¹ [fig.6] established bridges between the old and new media worlds.

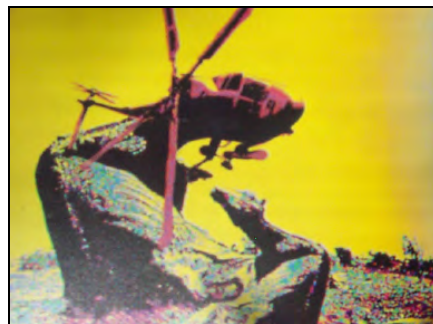


Fig.6 Sydney Nolan, *Image #5* 1986, raster graphic image, Quantel Digital Paintbox montage

Formal engagement with the artistic community in America and Europe quickly added momentum to the drive to leverage the new tool sets. The main techniques revolved around bit-mapped and vector graphics methods employed by harnessing video interfaces via interactive input devices. This tended to produce digital manifestations of established content and styles.

²¹ Goodman, *Digital Visions* pp. 23 -35

It was however another group of artists who evolved in the depths of the computer industry such as David Ems, Charles Csuri, Michael Collery and Richard Voss who really began to push the technology frontiers in creative 3D graphics. The birth of the first digital landscape models was a predictable development. A form of visual ‘yardstick’ used for matching nature and generating alternative worlds. Practitioners exploited Fractal mathematics and the Mandolbrot set to generate random digital elements that in turn allowed artists to explore a raft of new and what came to be termed, virtual environments.²² Voss created *Changing the Fractal Dimension* [fig.7] in 1983 visualising what had until then been impossible to manifest. By using computer methods he demonstrated works that defined infinite detail in a set of complex 3D landscape mountains.²³



Fig. 7 Richard Voss, *Changing the Fractal Dimension*, 1983 digital frames

Some notable high points of these developments were via collaborative projects such as Michael Scilli, James Arvo and Melissa White who created *Quest, A Long Ray's journey into Night* 1985.²⁴ A short piece of ray traced computer animation that demonstrated the power of the mind to expand and engage in virtual environments challenging the known norm of spatial visual senses.

A powerful 3D composite computer graphic that pushed the boundary of virtual environments by creating a realistic cued digital landscape was the milestone piece *The Road to Point Reyes* [fig.8] 1986, by the team of Loren Carpenter, Tom Porter, Bill Reeves, David Salesin and Alvey Ray Smith. This piece demonstrated the combination of image and texture mapping, 3D fractal plant generation and atmospheric controls all put together by a collaborative digital construction process. The mid 1980s witnessed a greater access to computer equipment by artists and the design industry.

²² Goodman, op. cit. p.107

²³ Jankel, *Creative Computer Graphics* p.37

²⁴ Joan Scott, (ed.) 1984 *Computergraphica*
Gulf Publishing Company, Houston. London. Paris, Tokyo



Fig.8 *The Road to Point Reyes* by the team of Loren Carpenter, Tom Porter, Bill Reeves, David Salesin and Alvey Ray Smith. 1986, digital image

The ability to create 3D models and render them to highly realistic levels of image quality approaching photographic realism quickly evolved as the demand from the commercial industries rose. This in turn was driven by digital graphics and innovation agendas where large financial investments were injected. The past two decades have seen a convergence of several mediums that were formally independent and separate disciplines now merging under the digital umbrella. Video, photography, post-production, graphic arts, special effects, printing, networking to mention the major ones, are all subject to extensive fine art investigation. Many of these developments were harnessed by the film, video, media and games industries through commercial production industries. Sutherland's flight simulation technology opened the door to immersion and large scale virtual environment developments and generated many fine examples of landscape cued digital media models for training pilots.²⁵

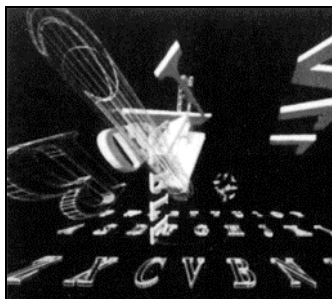


Fig. 9 Peter Weibel, *The Wall, the Curtain Lascaux* 1999, Kunstlerhaus Vienna, digital frame

More recently, Peter Weibel a contemporary German new media and video artist [fig. 9] explored the concept that; virtual spaces and the observer are always related. He questioned the notion that the 'observer objectivity factor' is a source of distraction dependant on an observer's standpoint. The link between natural and virtual experience uses the same complex influences and is subject to the same physical rules of

²⁵ Denkin, op.cit p. 154

engagement.²⁶ In his early works *Tangible Screens* 1990 and *Cartesian Chaos* 1991 Weibel used sensor technology to explore the new environment. This development also has its attractions and can be taken into account when tailoring virtual environments by adding a magnified personal dimension to a cold mechanical medium.²⁷

Further out on the forefront of the cyber space environment considerable innovative activity is taking place. In Australia the popular focus was centred on the virtual environments that defined whole new worlds and can be seen in the work of Troy Innocent and Jon McCormack where we can witness a form of artistic expression that creates, builds, populates, and harnesses cyber environments. Examples of such works are Innocent's *Theory of Cyberdata* 1992 and McCormack's *Interactive Evolution of Forms* 1992-93. The latter explores the mutation principal of base forms within a computer environment, an artificial life that engages participation issues and where the audience help define and choose selective outcomes thus influencing the evolution of the resulting digital forms. His later work *Turbulence, the unnatural history of an interactive museum* 1994-97 contrasts sharply with natural environments. In this work an artificial life force is all consuming with its independence and isolated existence. He prefers to use the technology to produce digital environments that represent new worlds with new visual characteristics and relationships in a global cyber movement.²⁸

The focus of this exegesis is not about engaging with virtual modernism and artificial digital forms of expressions. It explores personal experience and to some extent issues influenced and informed by actual environments. It looks at what happens when virtual and actual are merged in a process by using both digital and natural elements.

In Francis Dyson's essay *Gasping at the New Life of Technology*, he examined the issue of the 'natural' and 'real' while investigating Char Davies' *Osmoses*, a virtual reality piece exhibited in Montreal in 1995. Dyson also discussed how Davies' works *Edenic* and *Tuned to Nature* expressed and explained the position of negotiations that technological artistic environment occupies via their use of current cultural metaphors. Davies' conclusion, 'no difference'!

What is worthy of note is the concept of finding no difference in either the physical or the virtual worlds when dealing with experience and how new cultural metaphors are employed. A position I later came to support through the experience of my own investigations.

1.3 Literature review: Virtual Space and Related Issues

To fully explain the nature of virtual environments is not within the scope of this document however some key points need to be understood to appreciate its nature and some of the broader issues surrounding the use of virtual environments as source material. The literature review drew my attention to some relevant issues that should be addressed at this point.

²⁶ Frieling, pp 217 - 221

²⁷ Peter Weibel, / Florian Rotzer, 1993 (eds), *Cyberspace*, Munich pp 15 -46; [translations Rossanne Altstatt]

²⁸ Thomas, (ed.) essay by Francis Dyson, *Gasping at the New Life of Technology* p.77

3D computer space is subject to a long legacy of theoretical issues associated with how we read and interpret what we see and more importantly, what we experience. In a 2D computer image the number of pixels and the number of colours determine the strength of the reality effect, *larger is more realistic*²⁹ when dealing with realism based digital pictures. In a 3D model the detail and the illusion of reality is dependent on the number of points the model is composed of, its 3D resolution. This is what describes the realism effect in any screen display of a given subject. It is the visual clarity of any photographic image maps, textures maps and the over all rendering quality of 3D objects and setting.

In Web based interactive virtual worlds, the whole temporal illusion is dependant on the technology performance. The effect can be transparent where high computing speed is available and high network rates possible. Reality becomes a cost related item, a commodity.

In Neal Stevenson's (fiction) *Snow Crash*³⁰ 1992, he gives us a fleeting look at what he describes as a 'Metaverse', 'a spatialized Net of the future'. His main character in the story observes some black and white virtual people denoting users who are accessing the Metaverse through cheap public terminals and are therefore rendered in a grainy low definition black and white. Others are using off the shelf avatars (web personas) that are also poorly rendered and capable of only a few facial expressions unlike the more expensive ultra realistic custom models that the wealthy can afford. Real.... costs! That is, the computer generated illusion of reality costs.

In the late 1990s a former company called Veiwpoint Datalabs International marketed thousands of ready made 3D computer models, the more realistic the more expensive and thus, the higher the 3D resolution. This is a commercial reality that exists today and is quite a common notion in modern Web online services for pleasure, video or music.³¹

We can use VRML (Virtual Reality Modelling Language) as an example to highlight the spatial nature of 3D environments hosted on the Web. The high quality technology needed to deploy and move participants between full immersion and various interrupted states is still quite considerable. As the objects in the viewing field are rendered, low-end technology begins to affect the illusion by not rendering shadows or leaving out image mapping details, or, pop-up menus confront the viewer requiring actions and decisions. The same occurs in many computer game environments and is described in the industry as a shift from a transparent involvement to an opaque one.

The point is that these environments all have interface characteristics that depend on the technology and the cost can impact dramatically on the quality of the user's experience.

Although this project is not concerned with moving within animated or Web 3D models it none the less exploits the same resolution dependent characteristics. Quality 3D environments can be produced on most computers today given enough rendering time and adequate 3D software. The point to remember is that computer realism costs.

²⁹ Lev Manovich , *Global Algorhythm 1.3: The Aesthetics of Virtual worlds* (Accessed [8 January 2001]) <http://www.ctheory.com/ga1.3-aesthetics.html>

³⁰ Neal Stevenson. 1992, *Snow Crash Fiction* ,Batam Books New York

³¹ Manovich ibid p.3

In his online essay *Global Algorhythm 1.3* Lev Manovich discusses the spatialization of computer environments and the Internet raising questions about aesthetics, production costs and the how we relate to what we see on screen when viewing static images. The virtual models or places are made up of assembled objects and there is no space as such, they are more a collection of parts that occupy a set of local coordinates. In 3D graphics we are dealing with Cartesian co-ordinates hardwired into computer software and often into hardware as well. Manovich goes on to use Erwin Panofsky (the early 20th Century art historian) to support his ideas by highlighting Panofsky's essay *Perspective as Symbolic Form (1924-1925)* in which Panofsky contrasted the 'aggregate' space of the Greeks with the 'systematic' space of the Renaissance.³²

Although we are inclined to interface with virtual worlds in a systematic way they have a tendency to be more aggregate in that the 3D model parts are made up of separate sets of polygonal structures. These are bounded structures that are usually linked in a perspective projection. Forms based on Fractals³³ are also quite often employed in software programs to generate more random structured objects such as hills or mountains. Trees, rocks and such details can also employ such mathematical sets to produce variety whilst maintaining a continuity of style at the same time.

My own observations of this type of environment tend to support the idea that the space or environment is more an aggregate set of elements and that the use of atmospheric effects are the main element linking cue the mind employs to read the setting. The environments built for this project also tended to support the notion that virtual environments are an aggregate of objects. But, these objects are set in a Cartesian perspective structure very similar to a stage set in its overall gestalt. An aspect I find in many opera stage settings. The space itself is perceived via the rendering of atmospheric perspective and supporting lighting effects that soften the contrast and definition of the perceived receding objects within the picture plane. Visual cues such as clouds, sky and overlapping forms kept in scale complete the illusion and the mind seems to quickly fill in the final realistic illusion quite rapidly. This is the way in which the eye purportedly functions when dealing with vision. It emphasises the importance of our mind's ability to 'read between the lines' thus completing the reading of scenes encountered.

Even though the literature review did not provide specific examples of where the generation of 3D digital environments has been used as the core source material in what I will refer to as traditional painting and drawing practice, many lateral examples do exist of where artists have imbedded 2D computer generated images via collage or direct print media into artworks. Today's artists utilize many streams of digital imaging, video, and data projection techniques. Nor am I inferring that this review failed to expose any relevant activity and or evidence of visual material connected to the key themes within this project. Quite the contrary, many worthy books and articles were complementary to the broader aspects of the work.³⁴ Schneider's excellent discourse on Still Life traditions provided a wealth of background material on composed subject matter. Many samples of

³² Manovich op cit p.4

³³ A formula used to generate random patterns developed by the mathematician Mandelbrot

³⁴ Norbert Schneider 1999, *Still Life*

Benedikt Taschen Verlag GmbH. Köln Germany

the use of arranged motifs, still life subjects³⁵ and the development and investigation of landscape³⁶ traditions over the centuries were readily available.



Fig.10 Jan van Kessel, *Europe* 1664-66
Oil on copper panel



Fig.11 Neil G McMasters, *Dam set 1*, 2001,
Conté over Inkjet on water colour paper

The direct influence of painting layouts by Jan Van Kessel, *Europe* [fig.10] and *Africa Asia and America*³⁷ provided lateral presentation ideas for the large *Dam* set [fig.11] drawings. Also, the impact of Buvelot's late colonial landscape compositions subsequently influenced the *Molort Planes*³⁸ drawing set to some extent.

1.4 Literature review: Still Life Legacies

It is worth noting that Still Life art practice has a very long tradition and in general is understood to be the depiction of diverse inanimate objects via some form of artistic expression. It is normally associated with oil painting although mosaics, drawing, watercolour, collage and photography are also forms that have been often used.

‘Even though still life subjects can be seen in art from pre Classical to the Renaissance the form was recognized as a distinct genre only in the 17th Century in Western Europe, in particular within the Dutch schools where the conventions appear to have originated.³⁹ Until this time, in inventories and theoretical writings, paintings representing foodstuffs, plants and inanimate objects were usually simply named after the items depicted; and even when the existence of a distinct type of painting became recognized there was still diversity in terminology before

³⁵ As addressed in the following publications;

For example:

Richard Morphet, 2000, *Encounters New from Old*

National Gallery company Limited, London UK

C. Sterling, 1959, rev. 2/1982 *Still Life Painting from Antiquity to the Twentieth Century*

New York

Lowery Stokes Sims, 1996, *Still Life The Object in American Art 1915 - 1995*

Rizzoli International Publications, New York

³⁶ Michael Rosenthal, 1983, *Constable The Painter and his Landscape*

Yale University Press, New Haven and London

³⁷ Schneider op cit p.162-165

³⁸ Refer to Figures 51 and 52 [Exegesis Part 2] for compositional samples

³⁹ Schneider op cit. pp. 7-14

‘still-life’ became accepted. In France *vie coye* (Fr.: ‘silent life’) later became *nature morte*, analogous to the Italian *natura morta* and the German *Stilleben*. In Spain such images were initially called *bodegones*, after the lower-class inns and eating-places they were painted for. In the Netherlands various terms existed in the 17th century, including *ontbijtje* (small breakfast), *banketje* (little banquet) and *vanitas*, before *stilleven* gained currency.’ Hans J. Van Miegroet.⁴⁰

My main interest in Still life genre and its various forms of expression resides with the study of artist-arranged compositions and related concepts. In particular, the study of object placement and composition control. The practice of computer modelling is also concerned with these issues and concepts. Both deal with objects in space and the placement of forms, what differs is the perceived spatial environment that the creative exercise takes place in.

1.5 Literature review: Landscape

Much of the review material concerning landscape sources were incorporated into the projects’ concept development activities as part of the working process. A short definition and the sketching out of key areas for consideration is in order at this point.

A definition of landscape is:

‘Type of work in which natural scenery is the essential visual motif; an independent pictorial form in Europe from the 16th century. The German term *Landschaft* and the Italian *paese* (later *paesaggio*) were both first employed c. 1520. The Western tradition from which the form arose, stretches back, however, to the Classical world.’⁴¹

Out of the very wide field of issues surrounding landscape art, the main one in relation to this project is its bond with naturalistic Australian landscape engagement not social interpretation.

‘Landscape today is often studied in a socio-economic context, as the purveyor of ideas about property, status and social class.’⁴²

Much attention is often paid to theoretical texts and to the intellectual background in which landscape artists worked; other studies have sought parallels between art and literature, and explored the role of metaphor and symbol.⁴³

The Australian landscape tradition that encompasses what we can feel and what we can experience links this work to a place. Although digital landscapes are mobile they too stay linked to place in our minds and that link in this case is obtained by physical associations not social agendas.

Australian landscape tradition is also linked to its European roots via a range of cultural exchanges and practices. It has had a relatively short period of development when measured against the centuries of Western art evolution. Conversely, the very fact that it

⁴⁰ Hans J. Van Miegroet, *Still Life*, The Grove Dictionary of Art Online ed. L. Macy (Accessed [4 August 2002]) <http://www.groveart.com>

⁴¹ Helen Langdon, *Landscape painting*, The Grove Dictionary of Art Online ed. L. Macy (Accessed [6 April 2002]) <http://www.groveart.com>

⁴² Thomas, selected social interpretations of landscape and related political and environmental themes.

⁴³ Langdon, op cit.pp.3-4

is still in an early development phase has allowed its artists to be distinct and innovative by acquiring and expressing a visual language as unique as its accent and culture, the Australian ethos.

Although our distinctly provincial characteristics are always under pressure from other larger cultures in the current world of rapid and converging communications, it is still able to flourish due to its national momentum. What can be loosely described as a form of cultural sovereignty, our unique Australian qualities, are often a reflection of our environment and a synthesis of our sense of place. This is not unique to Australia but an aspect that cannot be overlooked.

The virtual landscapes I produce draw on established yet immature Australian qualities. The knowledge I bring into play in their creation is heavily charged with an overlay of local conditioning and values. Rather than ignore or deny this, or search for another global 'universal' virtual landscape environment, I have pointedly employed many local traditions and established western landscape art values to interpret and create Australian Virtsapes. The resulting source material is a unique form of environment that in turn is used in the production of Australian landscape artworks.

2 • Ideas and concept development - Landscape Art

Looking more closely at the ideas arising from the literature search lead me to realise that a connection between the established discipline of Western landscape art and how it relates to this particular practice had to be established if I intended to fully appreciate the influences that had informed much of the initial development.

2.1 Personal Observations

A fascinating effect can take place in the mind while observing landscapes created within a 3D digital environment that use what are traditionally termed 'natural elements'. By natural I am referring to elements, which in general represent and depict natural landscape characteristics and their individual visual properties. Visual cues in virtual environments generally operate and function in much the same way as they do when we look at a real, that is, an actual scene, or what we refer to as a natural landscape environment. The eye is quick to write the familiar cues to the brain in much the same way. Earth, hills, skies, rocks, trees, water, surface textures, distant mountains, vast planes and the like, when generated inside virtual environments, appear to stimulate similar responses and our eye's appear to function⁴⁴ quite impartial to the source of the data for example [fig.12].

⁴⁴ Helen Vareley, (Ed.), 1980 *Color*
Marshall Editions Limited. London p.40



Fig. 12 Neil G McMaster, *Dam 1.30 am. (v 2.15)*, 2001-02 Digital Virtscape

One exception to this is when we experience a large scale Virtual Reality immersion environment. It can confound the mind and suspend belief by generating a sense of vertigo through exaggerated animated motion or unnatural rapid scale enlargement of objects being depicted on the viewing screen. Flight simulation comes to mind as an example of this phenomenon.

On the other hand our minds can lurch from an objective understanding and appreciation of the complex construct of a computed image to quite subtle and subjective interactions with its content. It is within this latter domain that some of the fascinating enquiries took place.

2.2 Spatial Issues

For several years I have observed and examined the way in which the mind can react to perceived volumes of spaces within a setting, and in particular the play of light between forms as they appear to exchange implied sets of relationships. Some aspects manifest via light and colour properties, some via structural clues and some via the properties of visual space. This early work engaged the use of photography, painting and drawing experiments [figs.13-14] and spans the period between 1972 and the present day.



Fig.13 Neil G McMaster, *Air colour* 1984, acrylic sketch on canvas



Fig. 14 Neil G McMaster, *Aus River dotted* 1991, digital drawing over scanned photograph

What can be described as volumes or waves of space are often found in the connecting links between the macro and micro levels of visual interactivity.⁴⁵ By this I mean the amount of ‘importance’ we invest into an object within a scene, or, the relevance or non-relevance of components within a setting. Not everyone looks at a landscape the same

⁴⁵ Vareley op cit pp.20-22

way and not everyone reads the same meaning into a scene. It is always subject to the persons' mood, state of awareness or, to external pressure motivated by being in a particular location at a specific time. We can however share our observations and feelings in many forms of communication but we are never fully aware of the other persons' mental perspective. In this research my own feelings have been informed by both physical and subjective interface exchanges.

2.3 Vision and Input

On the objective side what we see is part of the physical processes inherent in our normal visual mechanism. What are referred to as the rods and cones inside the eye perform their normal physical function of sorting out and coding the light waves that they receive. Each according to the red green and blue groupings they are sensitive to, and, the identification of the specific spectrums received.⁴⁶

The waves of light also stimulate the mind when passed on into the brain, noticeably if a more relaxed focus is employed, for example when one slowly scans an open environment. This is where the subjective and intuitive interpretations can start to take place. When extra layers of landscape properties are taken onboard and almost unconsciously observed, the mind becomes proactive by filling in the gaps that the visual clues have touched on and yet have not fully engaged. In particular this is what I commonly refer to as the negative spaces and what these volume shapes indicate. Whole vistas can display layers of fluid forms that are not entirely related to physical objects. Forms, which do not consist of solid matter within the picture plane and landscape vista and yet are most physically there. The term that comes to mind is to dedifferentiate, to not focus the mind on specifics that is on a single item or mono event only but on as many as the relaxed mind can take in. The transfer of light and the relative data inherent in a scene is often interpreted at a deeper level of the brain when suggestive clues of known forms are implied by shape or light effects but are not necessarily clear or fully manifest.

Edwin Land the founder of the Polaroid Corporation demonstrated in 1959 that it is possible to evoke the perception of colours in commonplace scenes for example.⁴⁷ By using yellow and orange filtered transparencies placed over black and white still life scenes that he projected onto a screen, his audience perceived colours and attributed them to the objects as if normal.

The experiment established that the eye is not just a transmitter of light but plays a role in encoding the information as well. The brain is capable of reconstructing incoming data that is not an exact replica of what is captured by the retina. The mind is capable of writing its own conclusions and employs this operation when it identifies or recognizes the stored memories of categories triggered by small amounts of observed data from external sources. The subjective messages that we can read between the lines in literature and the wonderful audio shapes of mood forming silence that we experience in between the flow of musical notes are both similar to the way we can read between the layers of physical substances with our eyes.

⁴⁶ Varely op cit, pp 32,34

⁴⁷ ibid p. 40

Simon Sharma takes this case a step further into a world of deeper associations within his study of Western Painting by investigating the wealth of profound association such environmental cues can generate in our minds.⁴⁸ He investigates how history and myth are embedded into our understanding of what we know as landscape in Western art.

Whether sitting on the shores of a European lake or atop an Australian outback hill in the desert, the viewing of spatial volumes can be experienced. What differs with each engagement is the intensity of the light waves observed and their perceived interaction with forms. It is somewhat unpredictable and quite often the same setting will produce different responses. This is most likely due to one's current mental state and or how one's mind is operating at the point of contact. Some physical variations can also be attributed to major weather changes impacting on the environment or the time of day. The observation of various forms of light and their interactivity with the visual cues of a landscape environment can take on many forms. Much can be attributed to the observation of various after images and the shifting of eye contact between various tonal values. When consciously following a viewing path, the eyes also captures hints of artefacts left behind from previous points of focus and perceives trails of after images. Some place deep in our brain also seems to link (as if by instinct) the points in the view that suggest planes of light and negative relationships between solid forms. I find this phenomenon very fascinating as it manifests at the edge of our perception.

As well as studying this subject I have recently created art works that interpret and or capture general aspects of such observed waves and layers. Within established scientific disciplines the physical relationships between colour and form are well recognized and explain many of the known visual effects. Most are optic by nature as are most forms of after images. The rods and cones within our eyes sort out the observed data and its respective wavelengths at the speed of light and in turn send it on to the brain.⁴⁹ The mind however does not always place objective restrictions on such visual input and can generate all kinds of filters of its own that are more often than not related to our current mental state or put simply our mood. Often the changing state of mind at any given time is influenced by the passage of events.

In recent times I have been working on generating visual statements that are readings and intuitive interpretations of this layer of activity⁵⁰ My research has now embraced such phenomena through the investigation of virtual landscape settings. It utilizes a similar approach as that employed when observing external nature to now examine and extract studio source material from the digital settings.

⁴⁸ Simon Schama, 1996, *Landscape and Memory*
Fontana Press, London UK.

⁴⁹ Vareley, op cit p.32

⁵⁰ For example, Figure 1 p.14, Summary

3 • Defining the topic- Landscape Genre

3.1 Past Impressions

Many writers and artists have been keen to explore and explain similar phenomenon. For example, Cézanne in his later years was reportedly, ‘awed by his deeper perceptions of landscapes’ and in his letters to his son in September 1906 wrote about the difficulties he experienced in ‘realizing his sensations before nature. I cannot attain the intensity that is unfolded before my senses’, then goes on to say, ‘I have not the magnificent richness of colouring that animates nature.’⁵¹

My interest in this statement is his use of the term *animates*. Although several other terms or description attributed to his work are valid, what seems evident is that although Cézanne was considered as an objective or classical post-impressionist he was, ‘no stranger to the embodying of spiritual and emotional characteristics into his later landscape works’.⁵²

What are at first read as composed and arranged elements in his landscape interpretations can also be read as a very honest attempt to describe in paint the play between mind and observed scenes.

In his late work *La Montagne Sainte-Victoire* 1904-06 [fig.16] he displays a resolution of the animated or pulsing character of the landscape qualities he referred to in his letters. The surface is fragmented in light as the waves of relationships between positive elements are linked to the sweep of negative spaces with colour and repetitive surface marks. Repetition is a key tool in generating the pulsing effect.



Fig.15 Paul Cézanne *La Montagne Sainte-Victoire* 1904-06, oil on canvas

Cézanne’s late landscapes carry qualities that imply the use of very formal arrangement and a strong manipulation of the source material into tight compositions on the canvas surface. The elements in use are succinct summaries of observed scenes and are charged with subjectivity. They also generate a deconstruction of the forms that link the negative spaces via the use of vibrating brushstrokes. This composing, arranging, ordering, and positioning on the picture plane elements is similar to the way in which a computer-

⁵¹ John Rewald, (ed.) Cézanne, Paul *Letters*
1976 (4th edition) Oxford, UK. p.327

⁵² Richard Verdi, (ed.) 1990, *Cézanne and Poussin :The Classical Vision of Landscape*
National Gallery of Scotland p.193

generated landscape is formed. The virtual scene can also be a construct of an actual place and be carefully built from geological data sets using various software techniques. It can on the other hand be generated by using memory and references to combinations of source elements. A model can be structured from diverse synthetic elements yet to the mind reads as a convincing impression of a physical place.

The point of using contrasting composing methods in this discussion is to illustrate that although on the surface it may seem like observing nature and that composing from it by using a computer to generate a scene is a long way from Cézanne's methods, both are subject to the same observer skill sets to interpret and control the characteristics. The computer landscapes in this project have been subjected to very formal classical influences in their arrangements and element placement. Compositions from Claude [fig.16], Poussin [figs.17], Constable and Rubens have been observed and employed to test various compositional threads and influences.



Fig. 16 Claude Lorrain
Landscape with the voyage of Jacob 1677,
oil on canvas



Fig.17 Nicholas Poussin
Landscape Man killed by a snake c.1648,
oil on canvas

From these activities a synthesis of stylistic computer landscape compositions were evolved that reflected some of the same classical characteristics.

The deliberate use of such classical arrangements was employed to stimulate the fragmenting and animating of the negative spaces via formal area control. Also, an emotional stage seemed to appear and subjective reactions entered the process as a balancing factor. This is a creative dance that relies on the partner elements of feeling, and physical constraint, and what Cézanne apparently found so engaging in his later works.

3.2 Placing the Works in Context

The scope of this investigation has been purposely constrained to formal picture plane creation activity in a somewhat traditional way. It interprets landscape material by making 2D pictures on a 2D surface employing 3D cued references and spatial techniques. The focus is intentionally conventional in its working methodology. When old disciplines draw on new media and then take the fresh content back into a mainstream practice, there is an innovative branching away from many current landscape directions. Some strong parallels exist between this approach and the way in which photographically generated images have been incorporated into mainstream fine art over the past century [fig.47]. Recent Landscape artists such as Herman de Vries, Chris Dury, Nikolaus Lang,

Richard Long and Ian Finlay are in the main working with the actual external environment and border on performance art to a large extent to establish their positions.⁵³

This project contains the process within a range of established mediums and excludes the tendency to employ overly humanity based, political interpretation, large-scale social or environmental performance schools of engagement. It in no way rejects the validity of such creative practices, on the contrary it uses the contrasting aesthetics to understand and relate to the new virtual environment. It concentrates on exploring the older painting and drawing traditions of western landscape image making in order to harness past momentum. By using painting and drawing techniques in predominantly traditional ways it has helped to control and balance the large range of creative options on offer.

The resulting work is placed within an existing stream of art practice that employs a medium legacy spanning many centuries. It may well be contentious to employ traditional picture making characteristics that have a long pedigree and are not rooted in the current commercial, reactionary or new media art schools. Subsequently, it has provided some quite surprising results as the various aspects of traditional painting have surfaced as if driven by deeper more subjective interests in the medium.

3.3 Working with Australian Landscape Characteristics

Within Australian art history a considerable body of work has been produced that identifies elements that could be termed 'typical', that is typical in that they carry familiar Australian landscape characteristics and iconographical meaning. For example large open country environments, gum trees, water holes, the bush, the outback desert, infinite skies and such. Many early Australian painters attempted to define a unique Australian characteristic free of most European roots.⁵⁴ The unique nature of the Australian bush was not lost on the European trained artists such as John Glover [fig.18], Hans Heyson [fig.19] and also Lois Buvelot [fig.27].



Fig 18 John Glover, *Ulswater Cumberland* 1840
oil on canvas



Fig.19 Hans Heyson, *A Lord of the Bush*
1908 oil on canvas

⁵³ Mel Gooding, 2002, *Song of the Earth European Artists and the Landscape*
Thames and Hudson, London UK

⁵⁴ Bernard Smith, 1991, *Australian Painting 1788-1990*
Oxford University Press, Melbourne.

This form of symbolism became a common national indicator but over the past fifty years drifted into a category of cliché image associations. Interestingly though, these characteristics still carry considerable meaning in mainstream art making industries and are also the domain of various amateur art groups. At times it is perceived as unfashionable or retrospective to evoke the use of such images in some modern schools Australia criticism. It is more acceptable within the commercial world of popular ‘chocolate box’ image usage or the exploitation of pseudo indigenous motifs. These same elements and characteristics posed some very intriguing questions when I came to building and composing the virtual landscape sources. Deciding which landscape characteristic to use in a synthetic place was very engaging. It contributed in part to forming some of the issues within the of the research questions. In particular, how will traditional metaphors of landscape genre affect the characteristics used in the creation of digital landscape models?

My decision was to confront the issue directly and to actually engage with the uncomfortable feelings and questions that I had about using ‘typical’ Australian landscape motifs. I decided to build and employ such elements using open vistas, large blue skies, water holes, bush and gum trees and such Australian icons within the virtual landscapes. The logical extension of this was to emphasise such responses in the composed models as well and develop ‘typical’ Australian landscape styled images in the studio works.

After observing works by Frederick Casper David [fig.20] and John Constable [fig.21] first hand and then visiting their actual source settings, that is the source locations for these works (Rugan in Germany and Dedam Vale in England), their national, that is typical German and English landscape qualities seemed to strengthen and communicate through the scenes in very direct but not unexpected ways. The same strong sense of actual place is evident in many Australian artworks.



Fig.20 C.D. Friedrich, *Kreidelfelsen auf Rugen*
1818, oil on canvas



Fig.21 John Constable, *Dedam Vale*
1828, oil on canvas

I anticipated that a virtual model informed by Australian influences would also carry quite similar properties along with a sense of national place, or, a specific fingerprint from a visual setting. It is can also be charged with local visual legacies, the general location, or areas indicating where the composition data came from.

3.4 Exploring Mood Atmosphere and Place

The meditation and contemplation of landscape scenes as a romantic experience is a well-established vehicle for human expression and visual consumption. The viewing of landscape art has always had a strong tradition of engaging subjective responses attached to it that illicit deeper feelings relating to place, atmosphere, and mood.

Turner⁵⁵ and Constable [figs.22- 23] the two great 19th century English romantic landscape painters, evoke quite different responses but transport the viewer to places that have strong mood generating results.



Fig.22 John Constable, *The Hay Wain* 1821
oil on canvas



Fig.23 John Constable, *The White Horse* 1819
oil on canvas

Constable brings a world of natural rural English elements into harmony in his studio-devised paintings that evoke intimate and subjective responses to the places he depicts. Atmosphere is important and like familiar music compositions we can recognise the cues he presents as they are broadcast effortlessly into our minds. He takes location atmosphere much further and explores our willingness to fill in the implied moods and forms from our own knowledge and memory resources.⁵⁶

Rubens landscapes, which I find extremely beautiful and complex, tend to evoke a sense of grandeur, a sharing, a place that is a mix of sweeping moods evoked by volumes of vibrating objects that astound and delight the senses. Casper David Friedrich by contrast seems to put pressure on the senses by enforcing a mood or atmosphere that is charged with the knowledge of a specific place, a point in time before nature that can be visited and shared. By comparison the great classical masters such as Claude and Poussin forged mood by composition and reference to place via careful use of elements and visual cues that generate a sense of unity and tend to evoke emotions that speak to our innate sense of order and more of objective matters. Perhaps one of the most complex purveyors of mood and subjectivity within a landscape can be attributed to Vincent van Gogh and in such

⁵⁵ Diana Hirsh, 1973, *The World of Turner 1775 – 1851*
Time Life International, Nederland.pp.14-30

⁵⁶ Michael Rosenthal, 1983, *Constable, The Painter and his Landscape*
Yale University Press, New Haven and London. pp. 124 –132- 228

pictures as the *Wheat Field and Cypress Trees* 1889⁵⁷ his ability to move form and mind at the same time is wonderfully illustrated. Western landscape art history is full of variation and purposeful employment of visual elements we acknowledge as natural cues in both rationale and moving ways. The discourse over objective and subjective, classical and romantic is a topic that requires a good deal more time to explore and is not the purpose of this research. It is however useful to acknowledge the context and influence that such worthy debates have had on many parts of this project and some of the thoughts behind the work.

Computer landscape material generated within an objective (classical) Cartesian environment is also informed by visual cues charged with subjective interpretation. This occurs particularly at the very point where the creative expression takes place.⁵⁸ The use of Australian themes in some digital models can also be interpreted as nationalistic, bordering on and hinting at the romantic interpretation of their inherent elements.

Early Western landscape artists employed many styles and were often more concerned with the subtle issues of spatial perception. One worthy example of this can be found in the work of Titian. Although not acclaimed as a landscape painter his use of environment is worthy of attention. In his late work *The Death of Actaeon* ⁵⁹ [fig.24], a considerable amount of attention has been focused on the interaction of space between the key elements in the paintings and the negative spatial volumes depicted within the picture plane. Having studied the original work first hand on several occasions led me to conclude that the artist was using the shapes and forms to create a subtle layer of moving atmosphere that decomposes the solid forms in a most elegant way.



Fig.24 Titian (Tiziano Vecellio), *The Death of Actaeon* 1550-60, oil on canvas

Unlike his earlier work that carried the formal Venetian characteristics of Giorgione and Bellini, the objects in this piece are rendered in strong loose brush marks. The paint is dragged onto the canvas in a very broken style fragmenting and stretching the pictorial boundaries of the landscape that hosts the main figures. Shapes are echoed to reinforce

⁵⁷ National Gallery collection London UK

⁵⁸ Further comments in *Exegesis part two: Project Development*

⁵⁹ Dillon Gordan, 1981, *100 Great paintings*
National Gallery Publications London UK

tunnels of space that weave around the key forms. This tends to let the viewer's mind take a more interpretive reading of the setting and generate its own atmosphere as if by prodding and compressing the fluid nature of the pictures atmosphere. The air appears to be like a dense treacle consistency yet quite clearly rendered. The figures, the trees and the forms in the background terrain all surge in a mist of gold, browns and deep umber tones. The colour although localized at first glance appears to shift across the surface in the fluid space as the eye is led to various subtle linking cues of colour and repetitive shapes.

I found this solution to be very complex and yet very complete in the way it transfers the mind of the viewer once the eye relaxes. Some of the works frenetic surface could be attributed to what appears to be an unfinished state. However this is in no way a major factor, Titian's intention appears to be quite clear in the unique manner he has manipulated the surface continuity to generate the atmospheric setting for the mythological subject matter. The use of such techniques interest me a great deal as the dissolving of objects when the eye moves across the image is of relevance to this research work and a good example from a very different period.

My studio pieces have explored ways of working over the virtual landscape models with techniques that dissolve forms and emphasis spatial movement as the eye pans the surface, leaving trails of connections behind in the mind. In the oil paintings a key approach has been to build layers of images across the picture plane and link them with animated movements that emphasise a shift of focus between each. Tintoretto's *Transport of the body of St Mark* 1566 [fig.25], housed in the Gallery Accademia in Venice, is also another example containing painted atmospheric characteristics that is worth mentioning.⁶⁰



Fig.25 Tintoretto (Jacopo Robusti), *The transport of the body of St. Mark* (detail) 1566, oil on canvas

This large canvas is charged with thematic drama and superbly enhanced by the moving spatial effects utilized to animate the surface. I studied this work first hand and was impressed by the fluid rendering of the air within the viewing plane and across the picture's figures and architectural forms. The clarity of moving volumes was quite helpful in visualizing similar qualities with my studio drawings.

⁶⁰ Gionanna Nepi Sciré, (ed.) 1998, *The Accademia Galleries in Venice* Electra, Milano

In Titians' case his brushwork serves the same purpose as the staccato pastel work of my own drawings⁶¹ and the embedded brush strokes in the oil studies. The drawings focus on the layering of complementary, harmonic and contrasting colours applied in broken marks that unsettle and move the eye over solid forms. The term "impression" although strictly speaking is not an accurate description of these works it is indicative of the effect that is being sort in the illumination of open areas that form the negative space.

In Ruben's late landscape works for example, some excellent painterly techniques are employed to create atmospheric fluidity and cause the motion of spatial forms.

On several occasions I closely investigated *An Autumn Landscape with a View of Het Steen in the Early Morning* [fig.26] due to my growing awareness and appreciation of the unusual solutions he employed to depict the atmosphere within this painting. His handling of the paint construction also attracted my attention with its sepia Venetian like under-painting, a formal technique I later used to develop the large Bucht Str. oil studies for this project.⁶²



Fig.26 Peter Paul Rubens, *A view of Het Steen in the early morning* 1636, oil on oak panel

In contrast to the Titian example discussed, Rubens landscapes tend to use a more form-dominated process built about converging planes to animate and shift the space. The composition is quite formal in the play and placement of near and distant forms, all loosely structured around a classical golden mean layout with a high horizon line on the picture plane.⁶³ Sweeping groups of tonal families move in strong diagonals across the surface and lead the viewer through quite intensely detailed and wonderfully painted surfaces. The paint handling is just outstanding in the quality and range of marks. The detail is not over rendered or too defined. At certain points quite fluid strokes of paint blur from positive to negative forms. This in turn appears to generate the impression of quite large volumes of moving air filled with subtle after images as the eye scans the rich surface. As the eye relaxes it begins to de-differentiate the surface, which in turn becomes animated by sweeping fluid and radial movements that appear to be a product of the viewers mind rather than any part of the surface that stimulates them.

⁶¹ Refer to,[fig.42] section 2 which illustrates the staccato drawing style mentioned.

⁶² Title of the major paintings series from this project [fig.65]

⁶³ L. Vegara. 1982, *Rubens and the Poetics of Landscape* New Haven and London

Although the scene is charged with a very strong narrative and the primary objects are strongly rendered, the atmospheric motion and subjective stimulation is a quite separate and dominating artefact. It appears to the observer like after images in the eye. In two other Rubens paintings, *A Wagon fording a Stream*, c.1625 and *Sunset, a Shepherd with his Flock in a Woody Landscape* c.1615, the same solutions appear to be applied.⁶⁴ The pictorial atmosphere sweeps and moves with rhythmic or repetitive detail that activates the viewer's eyes. A staccato of small shapes and implied forms that on the surface appear as impressions of rhythmic arrangements and suggest understated objects. The viewer's eye is drawn across the canvas as the artist intended by means of a trail of subtle objective cues reinforced by the light and dark arrangements on the picture plane.

3.5 An Australian Landscape Perspective

In an Australian context, the realistic landscape works of Louis Buvelot, and later the nationalistic works of Tom Roberts, David Davies and Arthur Streeton, offer a range atmospheric solution and examples that are loaded with subjective signals. These artists clearly linked their subject matter to strong references of the country areas they knew. The familiar and the symbolic bush objects are matured in studio pieces by transforming source material observed first hand, into carefully composed and executed tonal realism and impressionistic statements.



Fig.27 Louis Buvelot, *At Lilydale* 1870
oil on canvas



Fig. 28 Louis Buvelot, *The watering Place* 1873
oil on canvas

At Lilydale [fig.27] and *The watering Hole* [fig.28] are fine example of Buvelot's work. Some parallels can be drawn between his clarity of vision and the Hudson River School of American art in the 19th century, although Buvelot's work is devoid of their grand romanticism. Both have strong roots in 19th century French realism and training in academy studio techniques. During Buvelot's Australian phase,⁶⁵ he demonstrated an ability to capture mood and lighting from a particular location and transfer it into superbly crafted classical, yet original and refreshing studio statements.⁶⁶ He left a legacy of *plein-air* methods acquired from the French Barbizon school that proofed lasting and pivotal in the development of the Australian Heidelberg school. Having had some experience with the then new medium of photography he no doubt honed his eye to be

⁶⁴ Kristen Lohse Belkin, 1998 *Rubens* Phadion Press Ltd. London UK

⁶⁵ Buvelot was Swiss born and European trained. He travelled in Brazil and then worked in Australia

⁶⁶ Barry Pearce, *Australia 1991*, 43 (colour illus.), 110 'Louis Buvelot' by Hendrik Kolenberg, pg. 37-52. cat.no. 29

sensitive to objective cues.⁶⁷ His ability to capture mood and lighting from a particular location and transfer it into studio statements is quite original for its time. I find his compositions to be extremely worthy of note as they are charged with the legacy of classical doctrine and deployed in Australian settings. His encounter with the new photographic medium in some ways parallels the challenge of dealing with today's new virtual tools. How can they be employed to continue on a landscape tradition? Buvelot's approach to the then new world of Australian landscape influenced some of the Virtscape models by way of composition and style. His work is a useful lesson in the reinforcement of the Western landscape traditions that are in play when working with 3D digital models.

From the Heidelberg school to the present day many Australian artists have engaged with the Australian landscape theme and interpreted its nature in a variety of visual solutions. For the purpose of this paper it is not possible to do justice to each and every thread of development but I will comment on a few I consider relevant to issues this project is concerned with. The works of artists like Tom Roberts Frederick McCubbin and David Davies are charged with Australian characteristics, atmosphere and many outback metaphors.



Fig.29 David Davies *A hot day* 1888
oil on canvas



Fig.30 Arthur Streeton
The purple noon's transparent might
1896, oil on canvas

In Davies' subtle outback and bush scenes the work appears to be carefully crafted on formal compositions yet infused with a tremendous sensitivity to the colour and light as evidenced in *A hot day* [fig.29]. Davies uses *plein-air* methods to distil essential elements from the scene and hold the specific time of day light qualities together in his dry style of painting. Arthur Streeton in his landscape work titled *The purple noon's transparent might* [fig.30] invites the viewer to experience a space that is charged with implied natural clues and a superbly painted atmosphere all placed within a photographic styled composition. The light and colour mood it generates is extremely strong and evocative to the mind. The eye seems to read passages of mere suggestions yet experience concrete feelings due to the continuity of the painterly surface signals.

⁶⁷ Jocelyn. Gray, *Louis Buvelot: His Life and Work* (MA thesis, U. Melbourne, 1977)

Recent Australian landscapes artists such as Lloyd Rees, Russel Drysdale⁶⁸, Fred Williams and Dale Hickey represent a more contemporary engagement with Australian landscape motifs and distil the essence of their subject matter into varying degrees of semi-abstractness. Rees tends to enjoy the open lucidity of air twisting and swirling about his spatial illusions. He treats the volumes of negative space between and around forms with great respect and clarity using line to emphasise key parts of his compositions. Williams considerable landscape contribution to Australian art evokes a sense of strong place in each setting painted. He uses limited marks and distilled object cues across his surfaces or tangled forms to suggest the bush. His work is more concerned with the tension between superb painterly marks and the 2D picture plane [fig.31]. It is a surface construct enhanced by colour evoking emotive elements. If we look at Hickey's *Cottlesbridge* [fig.32] landscape for example we find a far more semi-abstract solution charged with expressionistic colour statements and housed in a formal field of reduced forms and elongated movements. Such landscape works generally are referenced from specific locations and harness name associations in their titles to reinforce the sense of place.



Fig. 31 Fred Williams, *Upwey landscape*
1965, oil on canvas



Fig.32 Dale Hickey, *Cottlesbridge landscape*
1980, oil on canvas

These examples were studied because they each in their own way demonstrated a case where a sense of place and or the volumes of space and its movement within the picture plane are an important component of the work. Many of the pieces investigated used atmospheric and surface animated techniques to expose and explore spatial characteristics in their respective compositions.

The landscape tradition of Western art is a vast body of work that has been valued and taken on board since my early youth. Appreciating the distinction between periods and geographic locations is essential to fully understand and evaluate the broad stream of characteristics portrayed in this research.

⁶⁸ Bernard Smith, *Australian Painting 1788-1990* pp.251 and 257, comments on Australian ethos

4. • Evolving an Appropriate Studio Methodology

4.1 Digital Compositions

It is one thing to measure the quality of figurative images against natural cues by aping or interpreting their objective qualities when using realistic reproduction techniques. It is quite a different matter to actually create realistic 3D landscape models that represent a sense of place yet only exist within a virtual environment. This is digital composing, the act of arranging elements, lighting, atmospheric effects and surfaces with realistically styled yet simulated visual material. It engages the senses in quite new and unique ways. Virtual landscape models can be extremely detailed and involve enormous amounts of computing and composing time or they can be manifested as mere virtual sketches that are like snap shots from larger environments, less detailed or refined as models. In both cases the readings of the space and volume interplay between forms and planes tend to be accessed in much the same way.

In an attempt to develop a 3D modelling technique that was a fluent creative process and not overly constrained by complex methods, I constructed a virtual modelling style that was intuitive and very hybrid in its solutions and creative methodology. unnecessarily.

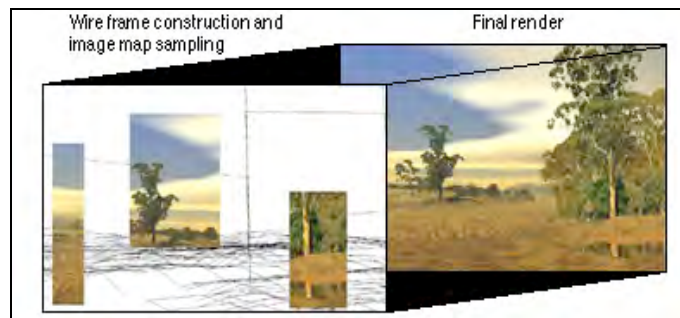


Fig. 33 Neil G McMasters, Virtscape construction illustration.⁶⁹

The compositions are more akin to opera or stage sets in the way they are constructed. They are a mix of 3D forms and elements but also employ quality image maps where object creation would be overly demanding on the technology used. The intention is to also avoid extremely long construction and rendering times that would also divert resources [fig 33].

4.2 Transfer Issues

By employing virtual landscapes to provide image data for the studio activities, it follows that the transit of visual material from one environment to another would be an important issue to resolve. The preferred options decided on utilized direct observations from the computer monitor screen along with digital printouts. Firstly, it directly links the image elements when using them in the next stage, that is the studio activity, and secondly,

⁶⁹ 3D wire frame landform objects, texture mapped terrains combined with 3D and image mapped trees : illustration of hybrid model building. The 'Final render' image is the source material for the studio practice.

because I favour transparent processes when handling the visual media to produce drawing foundations prints. Because the project proposal is concerned with employing traditional painting and drawing methods I was mindful to avoid the over use of media dependant techniques and totally digital solutions in the studio process.

A decision to use photographic referenced sources in some compositions was taken in order to juxtapose the actual and the virtual within the same pictures. These compositional investigations produced results that demonstrated that the actual environments are also subject to similar reactions as artificial sources. This is not altogether surprising as the processes involved have common characteristics whether employing actual or virtual generated source material.

5 • The Proposal: Criterion

5.1 Context Issues

The observer viewpoint, that is the point of connection between a virtual landscape composition and its creator, is governed by an interface exchange that takes place between the eye and a digital display screen. This is a relatively recent discipline when seen in the broader context of art making history. Much of the activity is event dependent and technically driven by the digital tool set and its operational parameters. The process is very classical and objective by nature. By this I am referring to the mechanical, and physical numeric driven interface that the software and computer tools present. It is not a very emotive or subjective side of the process.

Yet in the tradition of classical endeavour, that is the use of classical proportions and canons when addressing pictorial compositions, the idea of objectively composing and selecting the source material is an appealing challenge. Poussin, Claude, Chardin and Cézanne all practised some form of selection and compositional control. For hundreds of years many artists have painted and drawn landscapes by extracting and composing the elements as they saw fit to use.⁷⁰ This is a form of considered and selective visual editing. Although in most cases it was not possible to deal with landscape motifs in the same way as it is with small interior objects from a still life motif. In reality the act of physically moving landscape elements is just not a practical activity. In a virtual environment it actually is. No constraint was placed on how I would employ the painting and drawing mediums.

5.2 Subject Matter

Questions for the project proposal revolved around the latter point. It was now possible to create a 3D landscape and compose the elements within digital settings, and then investigate the resulting environmental characteristics.

This also led to other issues such as, which particular type of landscape and how could it best be contained in the most reasonable way. The possibilities and options seem endless. I decided at this point to relate the research to the traditions of Australian landscape

⁷⁰ Langdon, pp. 1-9

painting and to look at it in a conventional somewhat formal manner. This approach set some practical limits befitting the objective and technical computer influences.

It allowed me to investigate and cultivate a more intuitive and instinctive approach to the artwork produced. Foremost because the models would be informed by my past, that is my first hand experiences of growing up in the Australian countryside and secondly because of my ongoing interest in the contrast between classical and romantic influences in Australian landscape painting and drawing. Influences that come from a long tradition of Western art making investigation.

5.3 Virtual Landscapes and Australian Legacies

In the initial creative phase the focus fell on informing, enhancing, and accessing useful visual knowledge that signified what constituted a digital landscape. Fundamental metaphors of place, land, sky and space associated with understanding the visual experience were reinforced via first hand observation and subtle culture overlays. In many ways landscape values are strongly connected via a process of repeated, and, culturally reinforced experiences. These experiences are often formed from within the particular values systems of a respective environment. That is a provincial cultural influence and one that has been used here to reinforce a sense of location.

Virtual landscapes are capable of displaying such characteristics and in this case links to Australian landscape legacies. Working in a virtual place over long periods can generate a sense of familiarization, a strong sentiment of a specific locale.

5.4 Material Choice

Overarching this proposition was my desire to explore the question of using traditional materials, (that is paint and drawing mediums) and not to exploit the new media offerings or opt for digital solutions. A reason behind this approach was the wish to explore issues that may arise when content created with new technology is placed in an ongoing stream of medium practice linking previous creative eras.

Confining the range of materials to traditional methods also allowed for more contemplative time to engage the subject matter in greater depth. It required less valuable time evaluating new media expression and was therefore not dependent on new technology and special digital effects for results. That is not to say that these areas are of no value, merely to point out that it is not the agenda of this research. It takes the new and revolutionary back into the established environment of painting and drawing, and searches out just where and how it can sit in a broader chronological context by using mediums long employed for formal expression. A desire to harness a mature legacy of personal skills and techniques were an important factor.

From this perspective the project proposal questions were formed and the objectives of the research established. The working title 'Impressions from Virtual Landscapes' reflects this aim with its inherent historical referencing.

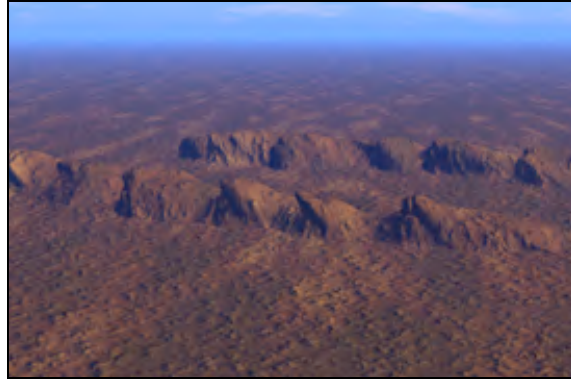


Fig. 34 Neil G McMasters, *Organic forming* 2001, digital virtscape

In pursuing Australian landscape themes grounded on personal readings from western art legacies, it followed that a window existed whereby some further participation in the continuation of such traditions and practice was possible. By developing and exploring new virtual landscape environments [fig.34], digital landscapes could then carry variety of informed and yet unique characteristics.

II. Exegesis Part Two: Project Development

1 • Data Collection and Related Influences: Methodology

Using the initial research questions and objectives, the methodology of this project was carried out following the established proposal schedule. To better understand the various parts of this investigation the following information lists key activities and links the activities.⁷¹

1.1 Development: Field Trips and their Purpose

The main objective of the field trips was to experience first hand encounters with a variety of landscape environments, observe the natural phenomena and to collect photographic⁷² records of the various locations for later reference. Some photos also provided important image-mapping resources for certain virtual models.⁷³

Particular attention was paid to distinctive Australian country settings and to locations with serial appeal (multiple photos of the same setting) on the Australian field trips. At times 3 or more photos of the same location were shot at different times of the day or year to provide records of light and seasonal changes at a specific location.

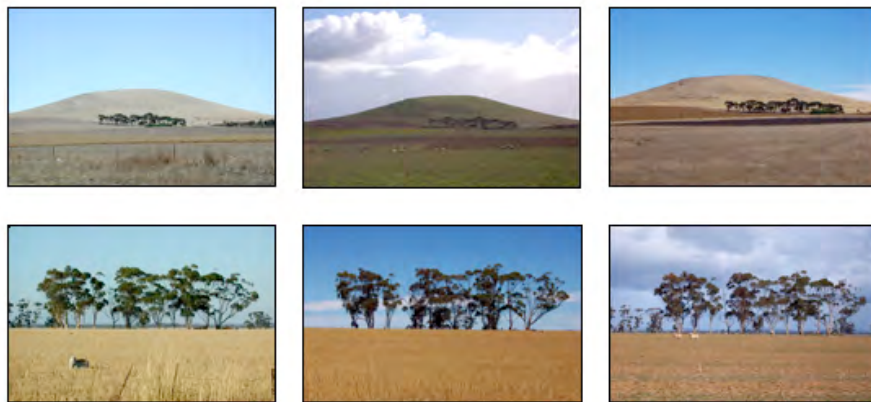


Fig. 35 Neil G McMasters, *Central Victoria*, 2000-2002 Serial digital photographs, field trip samples

⁷¹ See; Appendix 2, *Research Methodology*, detailed listings of field trips, photographic records, gallery visits, opera visits and data collection activities and dates.

⁷² The reference photographs were shot with a Nikon Coolpix 990/3.1 Digital camera, a Kodak 3800 and 4800 Digital cameras.

Slides records of selected virtual models and art pieces were shot with a Nikon EL analogue camera and photographs from the Flinders Ranges field trip.

⁷³ A selection of the field photographs can be found in the Durable Visual Records and along with some samples of applied image maps.

Such resources provided useful reference for the development of atmospheric and light setting options within the virtscape models.

The trips in Europe were also used to explore the contrast in light and to some extent compare the major characteristics of various rural settings to Australian settings. This material was very helpful in establishing a clearer understanding of what constituted Australian characteristics and light qualities later employed in some of the later 3D models such as the *Molort Planes* and *Water Hole* virtscape sets. It became quite evident that the age of the Australian continent and its general geographic condition is a major contributor to its unique qualities. Europe by contrast is notably younger and geographically more rugged, for example in the Austrian mountains and the Swiss Alps. However, the large population increases over the centuries have manicured the settled areas extensively. Each part of Europe has its own particular light ‘fingerprint’ as do different parts of the Australian continent. The nearer the equator or the higher the altitude the more stark the light seems to be.

A selection of objects that carried the same image maps sourced from field research photos was used in several virtual sets to enhance the series quality. This added continuity within the source images being produced by using element repetition. Subtle variations of the same objects were employed in an attempt to instil a stronger generic character into all the images sourced from the virtual models.

1.2 Development: Field Trips and their Influences

Many of the visual influences incorporated into the project work have been informed and reinforced by recent Australian, and to a lesser extent, European field investigations. Over the past 3 years several field trips⁷⁴ were undertaken to engage with landscape environments in mainly open country areas. Two major locations were explored, the Australian outback, (semi rural and country areas) and German farmland and lakeside areas. The two foremost areas in Australia were the Flinders Ranges, located in South Australia and the Midlands of central Victoria.

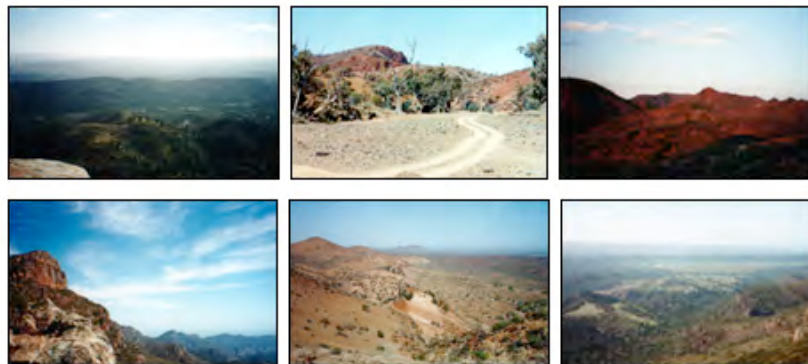


Fig. 36 Neil G McMasters, *Flinders Ranges*, field trip 2000 photographic samples

⁷⁴ Refer to: Appendice#2 *Research Methodology* for detailed list of countries, locations and dates.

The Flinders Ranges provided a rich variety of geological samples with some of the hill formations as old as 80 million years.⁷⁵

The area is approximately 400 kilometres long by about 50 kilometres wide and hosts a large variety of flat land ringed by hill and mountain formations.⁷⁶ As you move north, each area has quite distinct form and colour characteristics. The colour of this area is noteworthy because the atmosphere in general contains very little pollution or dust and the light is very clear. Hence, when observed the landscape projects very transparent vistas and aerial perspective effects. It also has a unique character, a strong presence of place that I found both intriguing and influential.

It provided an excellent location to sit and contemplate the huge volumes of space that moves between the forms of earth bound elements and the sky. The clear colour and open areas seemed to exaggerate the links between elements and their respective colours. Many afterimage effects can be observed if the observation is relaxed and non-focus orientated. A soft scanning gaze seems to activate a perception of more and more atmospheric and animated spatial activity. Also worthy of consideration was the large variety of weathered rock forms across the scenes. A sense of immense age pervaded the whole area and the general lack of human presence added a different time dimension to the place. Many of the surfaces observed in this setting provided data for the 'Geo set' *a work I completed the following year.



Fig.37 Neil G McMasters, (detail 3 of 6 panels) 2001, conté over inkjet on water colour paper

The Midlands area of central Victorian takes in a region radiating out from the city of Maryborough for approximately 60 kilometres and was studied on no less than 7 occasions. It has a rich variety of bushland, open farmland and by nature is very typical of the current country regions where there is a strong presence of human activity. This provides a strong contrast to the Flinders wilderness areas. It is also the area I grew up in and has informed a good deal of my understanding and knowledge of such country areas. Some excellent photographic reference of trees, dams, bush paddocks and such samples were acquired from this area. Several early morning images were captured at different times of the year at the same locations. Many image maps for some of the 3D elements in the virtual environments were sourced from these trips.

⁷⁵ M.Davies (Ed.) 1996, *Natural History of the Flinders Ranges*
Royal Society of South Australia, South Australia

⁷⁶ Gooding p.170, (Artist Nikolaus Lang's contrasting sociological and political based responses to the Flinders area and Australian landscape issues in general.)

The principal aim was to study the landscape's character, the look and feel of the spaces and places involved. After such field trips I would often review the virtual models to compare aspects. A constant issue was the recognition of various limitations within the 3D models in comparison to the real thing. However the real environment provided a stream of stimulus on the model building and in particular the atmospheric qualities. I reduced the compositions down to limited sets of essential elements that carried a strong Australian landscape character, a symbolic group. It would be easy to say icons of the Australian bush but at this stage of the process I was more concerned with actual element characteristics than the possible theoretical interpretation or social readings.⁷⁷

The fieldwork formed a reference base for symbolic properties such as open skies, large gums, water holes and dry country. Limited element sets that also underpinned the studio works.

From mid 2001 a considerable amount of time has been spent in Germany and in 2002 six large canvases based on the Australian element sets were produced there. The Australian styled 3D models informed the paintings by providing a focus on strong archetypical Australian image qualities. As these works were being produced in Europe the contrast to Hamburg's daily environments was very noticeable and the irony of producing Australian landscapes in Europe was not altogether lost on me at the time.

Other fieldwork was undertaken in rural Germany near Hamburg where the light and very green environment was recorded and studied. Further models from a German perspective will be developed when this project is completed. At the moment I am only starting to distil a set of German elements and basic virtual model components. Many trips to Stocksee Lake in Northern Germany provided opportunities to study a large body of water with open skies, very dramatic cloud and fast weather changes [fig.38]. This is a new body of investigation that will be developed after the current project is completed but because of the natural flow on, some of the early idea development has been possible.

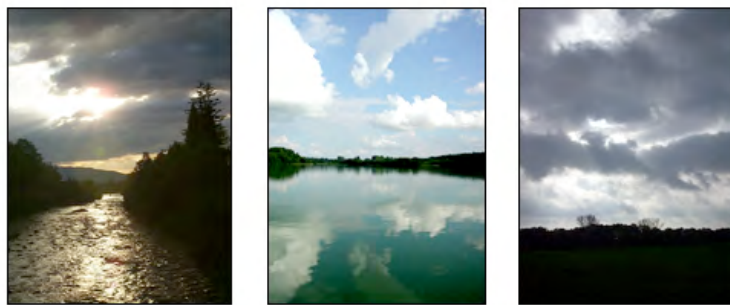


Fig.38 Neil G McMasters, *European sky studies* Dornbin, Stocksee and Volksdorf 2000 digital photos

The German light and atmospheric characteristics are very different from those in Australia and well recognized. In general, the clarity of colour is limited to near elements in scenes unlike outback Australia. A considerable amount of moisture and pollution seems to be in the air at all times which enhances the effects of aerial perspective when

⁷⁷ Thomas, (essay) *The Edge of the Trees at the End of the Millennium* where Julie Robert puts a political perspective on how early Australian art contributed to land degradation.

one is observing atmospheric qualities in landscape scenes.⁷⁸ As was expected, the observation of negative space and volumes seemed to function much the same way as in Australia. This indicated to me that a similar visual activity between the eye and the mind was taking place and is location independent despite the dramatic change of geographic location.

Although the physiological aspects of how our eyes and mind work are in the main not overly affected by what we see the mental impact of place and environment is and this is what I was keen to study. The only perceptible visual difference has been the enhanced awareness of soft echo shapes and after images, in particular with large open areas that contain stands of dark green forests.

By contrast the stark light in places like the Flinders Ranges reflects strongly off solid surfaces and hence it raises the luminance in scenes much higher. This leads to the light spilling over the darker forms also as it bounces and reflects off the surrounding surfaces. It creates less after image play on dark or solid forms in contrast to the German scenes [fig.39]. This could account for the difference given that European light is in general not so stark and impacts less on contrasting elements. It seems to narrow the range of visual contrasts by diffusion.



Fig. 39 Neil G McMasters, Volksdorf Germany 2001 and Flinders Ranges Sth. Australia 2000 summer light photo samples

An exception in Europe is when the extreme cold conditions produce snow covered landscapes and the sky is clear of cloud. Then the over-abundance of light due to the snow reflecting the whole spectrum seems to stimulate quite unique atmospheric effects on the eye. Altitude and climate do play a role as well.

The fieldwork has reinforced my awareness of natural phenomena via a range of first hand encounters. These fresh observations and experiences have presented an alternative perspective to the current academic interpretations of what an Australian landscape means. A healthy distancing from socio political filters using physical observation encounters. A notion that would no doubt please Mr. Ruskin.

1.3 Development: Key Galleries and Collections Researched - 2000 to 2003 .

Throughout the duration of the project it has been my practice to engage in first hand study of important art influences on this work. During the project over 30 galleries in 6 countries have provided a wealth of first hand study experiences.⁷⁹ The main areas of interest were focused on landscape and atmospheric examples. Although a large sample

⁷⁸ Vareley, *r op cit* pp.22-23

⁷⁹ Appendix 2 *Applied Methodology*, detailed list of galleries

of reading material has been make use of and the contents of great relevance to placing my work in an historical context, the most valuable contribution and informing experiences for this purpose came from the field research and the face to face study of works by artists like Titian, Rubens Constable and Monet for example. Artists whom I considered produced works that were relevant to my project and my objectives. Their works contributed first hand information about classic composition and traditional oil painting techniques that cannot be experienced from books or reproductions.

1.4 Development: Opera Sets and Staging

Between 2000 and 2002 I attended over 12 operas in Melbourne and Hamburg looking at the various ways in which sets and lighting are used to create atmosphere and mood.⁸⁰ (As well as enjoy the excellent artistic performances). Particular attention was paid to the way in which the stage designers managed a limited depth of field. The stage always impacts on the physical possibilities with its shallow depth. A study was made of how the designers come to terms with the depth limitations while still maintaining subtle illusions of large and often convincing impressions of open space. Frequent use of planes and surface scaling was employed to generate very convincing illusions of space within a minimum depth of setting. This aspect coupled with lighting is very similar to designing 3D computer landscapes. Opera however has certain stage cultures that although at times can be dramatic and dynamic, seem to stay contained within an acceptable style. Hamburg set designers work with smaller stages and tended to use more variety in scale to effect the desired outcome in contrast to the results of Australian Opera designers in Melbourne where larger staging characteristics seem to effect more play with depth cues and the use of regular scaling.

Opera settings complement many attributes found in the management of 3D digital medium and subject matter. Several viewing points of a single scene and numerous options for lighting provide a multitude of opportunities. Two performances attended in Hamburg at the Staatsoper Haus, *Die Zauberflöte* 2001(the Magic Flute, opera) and *Giselle* 2002 (ballet) were of value due to their unusual play between stage set objects and stage lighting. Both employed a technique of distorted perspectives by skewing the angle of depth rapidly in the extremely shallow stage space with overlapping hard focused lights in the foreground and washing out the sets and people in the background with cool tinted filters. A useful technique I employed in some 3D virtsapes (haze effects) in order to rely less on the normal software atmospheric techniques to achieve the illusion of depth within scenes. The use of painted set flats containing receding detail on textured surfaces added to the impression in the opera scenes. The vitality of the stage objects and their aggregate illusion tended to be the dominant visual factor.

An interesting set was observed in *The Elixir of Love* 2001 (opera) staged at the Victorian Arts Centre, Melbourne. The entire stage set was subjected to extreme scaling of the receding props to create exaggerated depth. Corrugated metal was extensively used and the corrugations scaled to endow the stage with what looked like typical 'outback' building materials (including the animals portrayed). The total set was coloured in yellow ochres, red gold and burnt umber hues to affect an Australian nationalistic character,

⁸⁰ See: Appendix 3, *Research Methodology*, opera visits listings and dates.

which in turn complemented the provincial flavour the director was aiming for. The portrayal of a cultural ethos using the set continuity was a useful demonstration of style. Translating these observations into virtual landscape modelling exercises is not that simple to articulate but I would point out that a pertinent connection lies in the way in which the environments can be arranged and lit in a controlled space. It is also quite relevant to still life compositions and traditional artist defined management of source material. The French Romantic painter Theodore Géricault used small wax models and a miniature stage settings to study, arrange and control the lighting of his figure composition in preparation for the painting of the *Raft of Medusa* c.1818-19.

2 • Investigation of Related Practice

2.1 Development: Serial Art

The constant use of multiple images from the 3D models has evolved as an important set or series trait within the studio work. In part because the source material can be investigated from many angles and perspectives and because it is preserved as sets of single digital image files. And, partly due to the constant use of subtle characteristic changes performed on the compositional elements that in turn require serial archiving to capture the subtle changes.⁸¹



Fig. 40 Claude Monet, *Grainstacks At the end of summer*, 1891 oil on canvas



Fig.41 Claude Monet, *Grainstacks Evening effects*, 1891 oil on canvas

Monet's *Grainstack* series [figs.40-41] demonstrated the concept of early series work. He reportedly proposed that⁸²:

“The value of my paintings can only be gained by comparison, the quality of the Grainstack paintings is only perceptible in the succession of the whole series.”

He initiated a method of systematically engaging with motifs that was later taken up and developed by a diverse group of 20th century artists such as Warhol, Mondrian, Jawlensky, Beecroft, Horn, McCullum and Ohara to name but a few. In 1901 Monet

⁸¹ The Molort Planes set [figs. 66] Part 4 Conclusion, demonstrates this process and direction.

⁸² Catalogue comments, *Order and Obsession* Exhibition Hamburg Kunsthalle Sept.2001- Monet Grainstack series

opened the exhibition *Grainstacks* in Paris, in which he showed the same motifs 15 times. His superb *Rouen Cathedral* series also explores this proposition.

Two quite unexpected developments have been observed in my research. Firstly, the fact that the studio work has systematically moved toward multiple or series image investigation and secondly, my growing interest in the use of surface vibration employed by impressionists and post-impressionists artist to address spatial issues [fig.42-43].



Fig.42 Neil G McMasters, *Molort Planes 4.3*
2002, conté over inkjet on archive paper

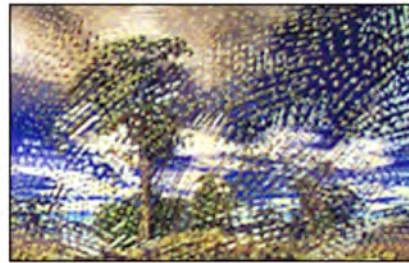


Fig.43 Neil G McMasters, *Molort Planes 5.4*
2002, conté over inkjet on archive paper

Although the working title of the project is *Impressions from Virtual Landscapes*, it was not expected to explore similar areas to the 19th century schools and 20th century ‘multiple’ artists to any great degree. The links to a strong tradition of atmospheric study in Western landscape art is a more logical continuation of serial investigations. It may just be a human attraction to explore the uniting of the two poles, radical discipline and obsession, where attitude and objectives can vary greatly. It may also be about constructing a system in order to keep to it or in order to break with or vary it? Whether it shows us difference or becoming similar the finest nuances can be evidence of both and yet still reflect a condition of modern mass production. The point is that the computer environment by its very nature creates conditions where such practices are inherent in the very process. As such, the observation of multiple image files from each scene set has led to a flow on into the studio work as if by osmosis.

3 • Related Conceptual Development

3.1 Development: Melding Australian Influences

Although there are a number of possible media options for transforming the material into studio pieces I preferred to rely on personal expertise, the use of eye and mind. The activity is to some extent quite intense because it continually draws on a wealth of data stored in ones memory. A further technique for generating random qualities within the look and feel the artificial environments has been achieved by mixing different visual references sourced from various field trips. For example hill structures and tree image maps from central Victoria were combined with the light and mountain forms of the Flinders Ranges. The results lead to new sets of credible (realistic styled) environment options and ‘believable’ synthetic images [fig.44]. Visualizing what has never existed also contains an element of surprise in the resulting virtscape models. Nevertheless, this stage is quite dependent on computer tools to generate the images and as such there is

always a need to transcend the software fingerprint to avoid the possibility of visual standardization in the resulting scenes. This is not a new problem as all mediums have some characteristic fingerprint that is a reflection of their tangible, visual, inherent or tactile physical properties. Computer generated media is no exception to this phenomena. Nonetheless with the range of surface manipulation options present it is possible to explore far more alternatives than in most traditional mediums within a given timeframe



Fig.44 Neil G McMasters, *Ridge Angle 1.3.8* , 2002, digital virtscape
sample of a 3D technical creation conveying subjective mood.

3.2 Development: Technical and Subjective Transactions

In the digital environment, elements from quite different sources are combined to form a scene. The technical components are merged with subjective inspirations as the creative process unfolds. Each component carries the distinguishing features of its respective development process, its individual attribute along with a set of personal associations pertaining to its creation. Quite different technical and subjective features exist in each new set of landscape material formed. This often depends on the spontaneity of the workflow during a building session or the associations attached to elements influencing the look and feel of the scene. By this I am referring to an individual character associated with each of the virtual images rendered. These associations are significant when the final stage of a picture is being formed. The results are dependent on collective responses to the computer environment and stimulate the mind to be more receptive when strong subjective associations infect the process. It is a contrast between cold objective toolsets and insightful emotive feelings.

4 • Exploring the Process –Virtual to Actual - Studio Practice Observations.

4.1 Development: New skills

When dealing with the use of virtual genre as a theme, it was important to separate the personal from the mechanical. This is an issue that involves all artists at some time and affects most art making practice. By using knowledge gained from previous experiences and applying it to the task of interpreting the new landscape genre, I recognized that some

new critical skills were called for. Realistic forms in synthetic worlds can appear to be quite natural thus requiring extra care when making aesthetic decisions. To some extent we could argue that all things are natural but I merely use the term natural here for descriptive purposes. New forms can provide quite diverse sources of raw information but we still rely on personal intuitive skills to capture or interpret content from the results. This material can be valued in the same way as if we had gathered it from an interaction with the actual world. The software tools along with the image generating mediums required to invent the virtual environments must all work together with cognitive skills in order to create realistic characteristics. This in turn opens a path to new forms of interactive engagements.⁸³ We all carry a range of landscape traditions and each generation injects new meaning, context and clarity into the reading of their current visualization.⁸⁴ We distil meaning from our individual perspectives and use the contributing sources to assist in us to develop creative solutions.

4.2 Development: Studio Processes

The following brief description lists the key studio steps.⁸⁵

Key development steps: drawings

a : 3D computer landscape models (virtscapes) are constructed and single images are rendered in a computer environment. In general it is informed by Australian landscape references and relevant field research.

b : The image is output in hardcopy or slide film. The hardcopy is usually in the form of Epson Ink Jet prints or large format HP plotters.

c : The print is either drawn on directly or observed and its contents utilised in the making of drawings by providing the source material for the content of the work. One or more source scenes may be incorporated into a composition.

Key development steps: Paintings

a : 3D computer landscape models (virtscapes) are constructed and single images rendered in a computer environment . In general it is informed by Australian landscape references and relevant field research

b : Selected scenes are used to prepare compositions or digital photos of working drawings are refined as development ideas. Some images are output as hardcopy or slide film. The hardcopy is usually in the form of Epson Ink Jet prints or large format HP plotters.

c : In general the oil paintings rely on direct observations from the computer screen, drawings and prints of working compositions. The initial transfer of data was drawn directly onto the canvas using a brush technique.

⁸³ Frieling , op.cit. p.172,189

⁸⁴ Kenneth Clark, 1991, *Landscape into Art*
John Murray Publishing, London UK

⁸⁵ See appendix 3 *Research Methods*

Some further tests were made with data projections and various transparent surfaces, and although these all had possibilities my main interest resided with the concept of incorporating the new content into drawing and painting practices. It is not simple to explain suffice to say that the toying with media arts of which I will point out I have had considerable experience, did not excite me nor meet my aims. The process of combining the new digital landscape products with traditional drawing and painting mediums did. To arrive at that point several development stages were undertaken.

4.3 Development: Which Software and Why

As the initial source material relied on 3D modelling software, trials were undertaken in the early stages of the project to test various commercial products. For example, Vista Pro, Lightwave, Studio Max, Tree Pro, Archi-Cad, Bryce, Infini D, and Form Z were evaluated to see which programs would best support my objectives. Because access to RMIT's high end Silicon platforms, 3D software and Virtual Reality Center were not readily available, (or affordable for that matter) it was decided to make the production of the source material a home based studio activity.

Some time was spent evaluating VR immersion technology that I found to be highly effective for visualization and motion simulation application. However, it did not demonstrate any tangible significant benefits that would support my research goals that were of any note.

The software preferred in this project is 'Bryce' software operated on a Macintosh OS computer environment. This is a commercial landscape modelling software tool that has been developed specifically to generate 3D landscape models and related material. It has an extensive range of user toolsets for generating forms, organic models, planes, complex sky lighting and atmosphere designing functions. It is a robust interface designed primarily for making computer landscape models and allows an artist to engage in modelling realistic cued 3D environments at an effective standard. Bryce software running on a Macintosh G4 computer also provided the most cost effective, transparent and robust option. Having had previous experience at using this software provided a sound foundation of skill from which I could launch into the project.

The virtscape building process starts in a Cartesian software environment. A model is built using a set of software tool options that control all object creation, terrain formation, atmospheric conditions, formatting, scaling and a variety of subset menu choices that allow the user to customise most aspects of the work. My approach was to establish a terrain first that usually consisted of several fractal or tone modelled terrains knitted together on a ground plane within the picture space. Camera angle or viewing angle options were crucial to move from a 3D view to various elevations such as left or right side, front, back, top, and so on. My aim was to build landscapes not explore the software for special effects hence the viewing plane was very formal in its settings. I found no impediment to setting up classical arrangements and quite formal compositions. Elements were carefully arranged in the viewing plane to compose a particular scene within a very specific viewing angle. Attention to composition in the picture plane was uppermost in

my mind. Although it is possible to move around the 3D space or animate and interface with the model it was not the purpose of the exercise.

A major component was lighting and atmospheric controls. When a model appeared to have the right elements in position many lighting tests were made by rendering samples. The final image was then rendered using ray tracing and output at an average of 6.5 to 8 MB file size. Although much higher resolution and file sizes are possible it was deemed quite unnecessary for the purpose of this exercise to supply the source images I required. Once the 3D image render was completed with the Bryce software, Photoshop software was then employed for most image management tasks and some composition development work. This step never involved heavy image manipulation, but rather placement and scaling management. The actual virtual model file used in printing can be as large as 10 to 25 MB [fig.45]. Image size is a variable factor and my requirements were generally linked to printing output specifications with allowances made for sufficient resolution to cope with scaling in the final printed format size.

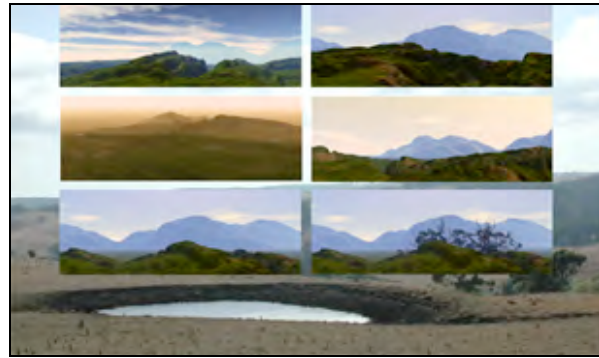


Fig.45 Neil G McMasters, *Highlands set 2*. 2001, digital composition layout utilizing 6 virtscapes, ready for printing

Archiving access and digital display management of the database files are dependent on KPT Quickveiw, iVeiw Pro and standard Web browser HTML software. The output was captured as hardcopy prints, digital files, and on slide film.

4.4 Development: Evolving Digital Images

Some background reflection at this point is perhaps essential to appreciate the conceptual territory we are exploring. It is only in the last two decades that we have witnessed the rapid development of technology driven tools capable of assisting in a variety of creative activities. The 3D computer modelling and visualisation systems are part of that massive expansion. Quite relevant landscape making technology has been widely employed in the field of terrain modelling over the past decade as well as a range of architectural and mechanical design applications. The modern military has a prolonged history of this type of application, for example flight simulation training and field manoeuvring over accurate model of topographic terrains. Developers have explored and honed productivity techniques for two decades making it suitable for the creation of convincing, that is, realistic cued landscape environments. By convincing I am referring to products endowed

with realistic characteristics when viewed. That is, they are faithful to what our eyes observe in an objective manner when viewing the actual world around us.

Some obvious limitations surface as the aim to transcend the hardware and software touches on a deeper layer of subjective involvement. The personal need to physically 'make the marks' which had been a part of my previous art practice was not fully accommodated within the computer environment alone. None the less there was a clear creative flow within the process enhanced greatly by the challenge of working directly with form and light in quite new ways. Work methods that allow for the testing of multiple options on any number of forms and unlimited light settings is seductive to say the least. It grips the imagination with its rapid feedback. It challenges the decision-making options at every turn, and it engages and involves the senses by expanding our normal perception of what constitutes a naturally cued environment. The information that informs these models is at times hanging on some very subjective threads of knowledge. This is a fascinating companion issue in this particular creative environment. It reveals the interface between artist and medium and the interactivity between the medium and the creative processes.

4.5 Development: Understanding the Interface

Several broad factors surround what influences our understanding of a visual motif and how our spatial perception relates to making observations within digital systems. The perception of virtual space is being investigated and tested by many artists and industries in an attempt to resolve the deeper interactive issues.⁸⁶ Notably the German New Media artists such as Ingo Günther, Peter Weibel, and Georg Winter⁸⁷ have all looked into these issues and build on the advance of Nam June Paik's and Bill Viola's early video work in this field. The Web and the newer non-linear IT environments are now converging with our formal knowledge based worlds. Interpreting what we see from the not so spectacular residue of this development may also throw further light on how we can better relate creatively to larger multi-networked environments. Although of great interest such artificial environments require specific examination to fully appreciate and evaluate the current rapid developments.

Computers and the broader Information Technology environments tend to exude a classical objective nature and be logic driven at the operational level. The interface experience though is not so clearly defined, and, the resulting images from this particular engagement invite further investigation, especially within some form of creative studio practice. An early project goal was the establishment of continuity links to the western landscape vision and tradition using composition features from early works.

When an artist builds, composes and or engages with a still life model, the objects, (usually three dimensional domestic items for example [fig.44] are normally observed, interpreted, and transferred to canvas or paper via drawing or painting techniques.⁸⁸

Pieter Claesz the German born still life specialists working in the Netherlands in the 17 century was one of the first artists to paint in a monochrome *banketje* style and tended to aim for tonal composition unity like his contemporary landscape artist Jan van Goyen.

⁸⁶ Frieling, op cit. p.217

⁸⁷ Ibid pp.105, 217, 253

⁸⁸ Schneider, pp.18, 104

‘Aesthetic sublimations under the Protestant introspection’ lay behind many of these extremely tight displays of composition control. By using reduced object sets and meticulous placement he extracted quite formal statements that carried layers of secondary social meaning and symbolism. The same approach is possible when using Australian landscape symbols in Virtsapes by reducing and unifying in a controlled setting



Fig.46 Pieter Claesz, *Still Life* 1633,
oil on oakwood panel

Generating landscape models in a computer environment is also akin to arranging a still life composition. It is arranged source material when looked at in this context. During the rise of photography as a creative medium in the 20th century, the use of objects or artist arranged scenes were captured straight to film and printed onto various papers and emulsions. The artists James Rosenquist took this further by exploiting the commercial printing industry’s use of photographic material in his large-scale art works.⁸⁹ Modern photography appears to have carried on some of the still life tradition or what I often refer to as artist arranged or composed source material.



Fig.47 James Rosenquist, *House of Fire* 1981, oil on canvas

⁸⁹ Lowery Stokes Sims, 1996, *Still Life The Object in American Art 1915 - 1995*
Rizzoli International Publications, New York

My undertaking to transfer the subliminal and subjective qualities of the models into studio works was more than a technical challenge. Using digital printing tools the scenes can be captured directly onto papers or canvas or a variety of other surfaces if so desired. It does however bring into play a problem that has surrounded colour printing from computers for the past three decades. The switch from an additive colour system⁹⁰ employed by the computer screen to the subtractive colour⁹¹ systems employed by printing technology carries all manner of secondary fidelity issues. Rather than be overly preoccupied with such issues, standard plotters and inkjet printers were used to transfer images with an acceptance of the medium limitations within the process.

The way we interface with a computer screen is another matter though. Digital images have a very controlled colour management system that only varies its delivery to the screen as the manufactures vary display system specifications or calibrations. Components can also differ slightly depending on their physical condition and can affect the colour caste of the screen. Video displays are subject to fidelity problems at times as the RGB (red green blue) cathode ray guns housed in the cathode tube cannot be aligned properly or lose colour fidelity due to quality or deterioration factors caused by ageing components. LCD (Led Crystal Displays) and Plasma displays are more stable and less subject to major colour differences but are also likely to carry some bias due to manufacturer specifications. Digital cameras have similar problems with the colour filtering RGB gating arrays that control the capture of light waves. Once again the calibration can be software dependent and product limited due to components chosen or simply aging equipment. The point of this small diversion is to illustrate some of the technical issues that are inherent in a digital process that utilizes additive colour systems and to illustrate how easily they can be physically influenced.

On a subjective level, both additive colour on screen or subtractive colour on a piece of paper will generate as many interpretations and employ as many emotional readings as each other. My creative process requires a certain amount of spontaneity and freedom so it was decided to exploit the direct transfer to paper solution and accept any inherent artefacts in each stage. As long as the transfers from one environment to the next carried the desired feelings and objective characteristics it would serve the purpose. In the painting activities, freehand brush drawing using thin sepia oil paint was employed to transfer the information onto canvas. This relied on the eye and the mind to translate the content. The same freehand approach was employed in the later watercolour washes and drawing trials. It made for a greater reliance on instinct and feeling and less on mechanical means thus limiting the process to the use of traditional mediums.

“Not what man knows but what man feels, concerns art. All else is science.”
(Bernard Berenson, 1897)

⁹⁰ Colour that results from projected light rays, eg. sunlight, data-show, or video monitor projected light.

⁹¹ The colour we see as a result of reflected light rays, the surface molecules reflects the colour we see and absorbs the spectrum we don't see. Absorption and refraction eg, colours emanating from painted or inked surfaces

5 • Components, Material and Processes

The core components and creative drivers within this research cover several diverse areas. The artist-defined content is developed in the tradition of still life arrangements while at the same time being subjected to contrasting studio conditions. Objective technical operations are performed with computer tools while at the same time the subject matter draws on various subjective interpretations to create the source content. It employs an Australian landscape context to narrow and sharpen the research focus. This initial material merely provides visual information for the following, very hands on, studio-based activities. However, the digital studio work needs to be carefully evaluated to fully utilize its innovative offerings.

5.1 Development: Studio Practice, Digital Composition

A firm relationship exists between the uses of still life techniques by artists over recent centuries as a way of controlling their subject matter, and, the motif behind my use of virtual 3D landscapes models to source the content for artwork from.

Composed landscape models are theoretically quite large in comparison to most common still life arrangements that generally rely on small interior settings and use such items as, bottles, tables, fruit, personal objects and such to make up the scene. The critical judgments deployed to arrange and manipulate the virtual elements are however somewhat similar. Both exercises are concerned with the general issues of placement, lighting, space and the subjective meanings that objects can imply. All material within a setting is selected and placed using some form of critical or intuitive judgement. The activity that follows of interpreting or extracting content for the purpose of making artwork is also based on similar actions and decisions.⁹²

On one level the placement of objects is only a starting point and does not necessarily lead to realistic interpretation in its final expression or form. In the landscapes that are composed for this research there is a deliberate demarcation point where the virtual image is merely a catalyst, a stage for the investigation of the atmospheric qualities and the synthetic spaces.

By working directly over the top of the resulting images, drawing pieces were developed to expose and describe any intimate reactions to the captured (composed) scenes. There are several elements at work in this mix and it is essential to have a sense of what they are and how they each interact when employed in the studio practice. These elements are the terrain models, their character, the atmospherics influencing the aesthetic styles, intuitive responses, mediums and material properties, scale, image transference, compositional structures, and a range of emotional and intellectual responses to list a few.

A major concern is always that of engagement. I was intent on exploring the dynamic spaces and negative volumes interacting with perceived solid forms. I also used a process of intense observation with each captured setting. This was naturally a very subjective

⁹² Schneider op cit. p.104

activity as it revolved more around what I sensed and felt from the environment I was focusing on. The mood factor and the amount of meaning that I detected informed most levels of the creative activity. This type of pursuit has been underway for some time and in recent years has been combined with the construction of virtual landscapes. They now become familiar places by virtue of the fact of having constructed and designed them. This establishes a strong sense of knowing where the place exists and triggers a deeper level of consciousness. Quite long periods were spent just viewing a particular image to become familiar with its characteristics and so as to carry that first hand knowledge into the next studio stage

Virtual landscape building is not merely an aping of natural subject matter. These generated landscapes are formed using aesthetic decisions and rely heavily on intuitive interactions. This practice becomes extremely transparent and fluid as themes develop that relate to specific places, the virtual locations.

The development is still informed by the observation of landscape elements and my relationship to appropriate visual cues. This process is comparable to the *observer standpoint* and the *observer objective* as debated by Otto E Rossler.⁹³ New tensions seem to arise between the *classical objects* that have become part of the composing tool set and what is *manifested as observed elements*. These issues were also raised by Peter Weibel in his *Virtual Reality Endo approach to Electronics*.⁹⁴

A parallel and practical development at this stage of modelling is the freedom to recycle created elements in many different settings and relationships. Reusing objects or atmospheric conditions constructed in one model or series can then be duplicated and applied in a new virtual model. This is the copy-paste feature of modern computing being utilized with 3D elements. Many elements and virtual objects may be reused in a number of scenes if so desired. These objects or elements can be endowed with a variety of subtle variations to maximize their characteristic impact and to also blend them into the new host environment where necessary. This can be done at the required scale, position and appropriate viewing angle as required. For example in the *Highlands* model [fig.48], a multiple utilization of the same terrain components is employed to maximise the time invested in the construction of various visual assets.



Fig.48 Neil G McMasters *Highlands* 2.7, 3.0, and 3.2, 2000 -2001
digital virtscape, sample of terrain component sharing

The focus on repeating images has evolved in direct response to the freedom of variation possible within a computer graphic environment. Because the initial source images are stored in digital file formats, they can be reviewed in sequences. This handling methodology has imprinted its characteristic on the work and I have consciously made

⁹³ Frieling, op. cit. p.217

⁹⁴ Weibel, p.32-40

reference to it in several of the multi image compositions developed in the studio. Some pieces have also evolved into full serial sets and works containing multi-segmented parts [fig.66]. This appears to be an absorbing of the digital environment on another level. The use of the same motifs with variations on a theme or composition is a common contemporary practice. The very nature of computer-generated imaging allows for the rapid development of variations and options once the initial scene has been composed. The creation of subtle variations leads to a resolution of compositional problems much faster than traditional materials and techniques by using serial sets and a multi solution approach.⁹⁵

5.2 Development: Understanding the Digital Content

The base images are usually captured by printing from an electronic file onto quality paper ready for the final the drawing stage or as reference documents for works on canvas. It is a pragmatic approach yet not altogether devoid of subjective decisions. It can often lead to intuitive developments where subconscious sensory engagements occur quite spontaneously. There are two such drivers at work that have been identified. One is the responsive reaction to the computer models as they convey inherent landscape characteristics. The other is the peculiar journey across the boundary between the source material and the transformation of that material into a piece of studio artwork.

Without going further into the technical explanations of 3D modelling and the extensive theory behind the processes at work here, it is useful to appreciate what the basic nature of this form of visual language is. As with many imaging processes, it is generally read on a 2D screen which generates visual cues the eye and the mind read as depth. For example, the rendering of 3D forms using light and dark to model solids. Overlapping forms, relevant and apparent size in the picture planes, near and far, strong and weak, mechanical and aerial perspective cues, to mention a few; all in the main rely on colour and contrast variation to achieve the illusion of space. This is modelling with light (additive colour system) to create depth and produce convincing images within that setting. All this hinges on the capacity of the equipment and the software that governs the degree of detail and the perception of realism that can be achieved.

The models produced for this project are not subject to any need to demonstrate the highest standard of realism, nor engage with only state of the art technological support. It did however require software that had the capacity to be, as much as is technically and design wise possible, transparent within the creative process. As with any creative process, practice is an essential ingredient.

5.3 Development: Staging Techniques

The approach has been to some extent informed by studying opera sets and the way in which the senses can be controlled by cues of light and shape played out in various combinations of scale and layout. The aim of this activity was to discover how angles of engagement within the set objects in the staged scenes impacted on the viewer's intuitive

⁹⁵ Monet's *Grainstacks* series offer an equivalent sample of this approach in landscape painting, recognised as early modern serial painter. Hamburg Kunsthalle 'Ordnung and Obsession' Exhibition 2001

and spontaneous judgement. Arranging sets and lighting on this scale, like 3D modelling, contains the objects within a viewing plane and controls what is seen which is paramount. Image mapped objects in a virtscape are very similar to stage props and require similar placement management to effect the desired illusion of space. It is also akin to photography in that the search for the angle, the lighting and above all the strength of the visual material is paramount.

Modelling can be composition related and less emotive but the potential for surprise is always involved in the exercise because of the infinite number of options and variations that can be explored. Arranging elements is the major activity in the building phase. Opera sets are excellent examples of this practice.

5.4 Development: Working in Virtual Settings

Once a scene or set of forms has been developed, (by instinct and by design) the establishment of spatial relationships and testing the eye for quality and intuitive responses starts to play a primary role. There tends to be a subliminal hierarchy in that certain parts or steps in the final composing exercise take place as if by instinct. The first rendered impression can provide multiple viewing options and a viewpoint in the picture plane can be established around a general area or set of preferred features. The model building takes on a flow at this stage that is akin to play as a process of 'what if' is enabled by the flexible nature of the medium. References from field trip photographs and such observations are used to finetune the various elements under construction. It is also quite sobering to compare a photographic image with a computer model. It demonstrates two things worthy of note. Actual scenes are far more complex than we assume, and a willingness to accept poor detail when modelling tends to be overridden by the satisfaction of being able to create at least some semblance of a realistic scene with such tools. In this environment we tend to take a leap of faith with our belief system and accept the scene as real. What we accept as a real illusion is often a poor substitute for the complexities within nature. Secondly it highlights just how much our mind interprets and accepts incoming visual cues that by association suggest we are observing a real space [figs.49-50].

A key reason for the photographic research was the sourcing of image maps for the models. That is to take aspects of the photos and import their respective surface characteristics into the computer models as image maps and as form generating grey scale shapes. This approach opened up a more flexible use of trees and shrubs and such details by employing image maps on planes, virtual stage flats. To generate pure computer tree models is a very processor intensive exercise and the software fingerprint is very difficult to overcome. Although I built and utilized some 3D gum trees my preferred method was to make a hybrid entity. The solution is a form of 3D collage using 2D image maps on planes or 3D objects and as I noted, somewhat akin to stage design.



Fig.49 Neil G McMasters *Bridgewater dam and gum* 2001, digital photograph



Fig.50 Neil G McMasters *Waterhole tree and cloud* 2001, virtscape digital image⁹⁶

An element of play is involved in the composition building that also engages the later decision-making processes. The works firmly focus on using western landscape composition and related issues. The atmosphere in the initial model sets are informed by loose geographic influences in particular Australian and to a lesser degree some German landscapes.⁹⁷ The geographic characteristics involved can be built in very large virtual spaces and although it would be attractive to restrict them to specific location references, the freestyle hybrid models tend to generate more intuitive responses due to their less technical nature. Even though they are artificial places that impact to some degree on our input and subjective knowledge, there is a tendency in this case to reflect Australian styled scenes in their characteristics. Most of the compositions selected from scenes are classical and formal in design. They carry strong references to classical Golden Mean proportions via the deliberate placement of picture plane assets and key elements. Contrasting trees overlap the light sky areas joined carefully placed horizon lines. The scenes are a balance of open negative area, proportions and realistic object scaling [fig.51].



Fig.51 Neil G McMasters, *Gum* 2.2.6 , 2001.Digital virtscape, classic composition sample

⁹⁶ NB. In Fig.50 the large tree (right hand side foreground) is a 3D computer model sample of a blackwood gum tree set in a 3D texture mapped terrain with a 3D waterhole. The background trees are image mapped planes similar to stage sets with 3D clouds and atmospheric perspective settings to establish the illusion of depth. This is a hybrid model sample, some scenes are also 100% 3D object constructions with no 2D image planes.

⁹⁷ My first complex 3D virtsapes were built in Germany in 1994, hence the German interest and influence on some models.

Because the elements represent or signify Australian landscape objects or places the viewers responses are not always expected to be objective or classical in fact I expect to illicit certain romantic responses. The archetypical nature of some the scenes underpinning the works is intended to stimulate subjective reactions.

5.5 Development: The Creative Flow

The studio work predominantly consists of layer building processes that are either drawn or painted using a staccato or repetitive mark making style to evolve the statement. The responses are in the main spontaneous and directly engage the eye in a play between the underlying source elements and an emanating field of energy that it is merged with.

The virtscape material is investigated and visually integrated. It is not produced as stand-alone artwork in this particular research. The prints or large plots are subject to the inherent limitations of transfer technology but in general it doesn't interrupt the flow of content and creative responses. The images are moved from an additive digital colour system to subjective ink based system⁹⁸ onto archive, etching or watercolour paper stocks and matt Epson photography papers for reference scenes. This process is also made as transparent as possible so as to keep the flow of ideas fresh and in focus. The memory or the feeling of a familiar place that has evolved in its creation migrates to the studio environment in the form of a strong 'knowing', a type of 'been there' understanding of the virtual place. This is akin to recalling an actual location when looking at a photographic reference. The more familiar the sense of place, the more intense and subjective is the sensitivity to its further use. It is important to have this link in place in the studio.

5.6 Development: Studio Practice, Drawing

Extensive investigation has taken place via the use of drawing techniques. The works range from pieces with very light layers of drawing across their surface to pieces that have been heavily overlaid with intense surface activity.

By using staccato marks the key focal points were linked to major element and forms within the picture plane around which the eye could pivot or be held in a state of gentle tension. The pastel medium used contains a very immediate mark-making characteristic when applied in this manner. The marks produced are quite spontaneous and the inherent nature of this technique tends to produce very animated surfaces.

Studying how to interpret from the subtle layers playing on the picture surfaces became a key activity during the studio sessions. It impacted on how well the drawing and painting sessions would proceed. A form of humorous "mood gauging" seemed to take place prior to commencing drawing and such rituals added more subjective interest to the development of each piece of work.

On one level the drawing layers triggered complementary reactions in tone or hue to the printed virtscapes when areas of colour were built over forms and spaces. This stimulated subliminal responses. These responses were captured by the rapid pastel marks. The pastel tends to vibrate across the surface and each point is like a tiny explosion that rattles with a rhythmic sound as the work progresses. This is a phenomenon that adds to the automatic atmosphere of the practice.

⁹⁸ Varely, op. cit p. 21



Fig.52 Neil G McMasters, *Molort Planes 1.1.22*, 2002
Conté pastel over inkjet on archive paper

On another level the drawing process is akin to a rapid decision making exercise as the shaping of the fields and reaction to the forms or spaces in question are transformed and a final assimilation takes place between the printed layer and the drawing layer.

Overarching both of these layers is the subtle influence of responding to the landscape cues in an emotional or personal way. The cues for various elements are charged with a legacy of associations that enrich the relationship to the creative process in train. It can also dictate the mood of work sessions to a greater extent than had been anticipated.

What can be concluded after nearly two years of experiencing an greater awareness to this occurrence is that it dictates the creative flow of the working sessions far more than had been anticipated at first. The layering process also evokes intuitive responses. This is partly due to established knowledge concerning how the images are produced and partly due to the drawing technique that is very spontaneous.

The dominant drawing characteristic consisting of the staccato lines and marks that skip across the working surface was constantly matured. The conté pastels are used to produce the drawn fields derived from the various dynamic spaces perceived in each study. The marks made by bouncing the conté pastels over the paper in varying run lengths rely on line runs that are generated in concert with the forms and the spatial cues that the eye perceives are embedded within the image. This produces vibrating and dynamic movement because the underlying print colour that still remains visible. The lines or marks are read as a series of coloured dots or short lines that interact across the picture plane and create transparent waves. A visualisation of the implied tensions that reside within the picture elements activate the surface and confront the viewers eyes with vibrating movement that can interrupt yet still convey the element cues to the mind. A more unified mood settles over the final images once the mind has accepted the first disruptions to its normal observation habits.

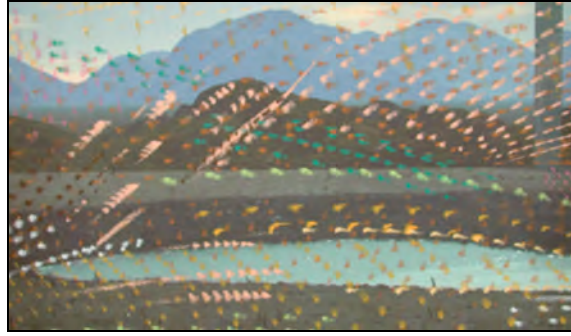


Fig.53 Neil G McMasters, *Highland and Dam 1* (detail) 2001.
Conté pastel, early staccato sample over inkjet on water colour paper

The intention is to expose a response from virtual objects and space via a free form method of working. Chromatic neutral fields result from complementary colour effects or contrasting tones as the dots and marks vibrate off the underlying surface and lock the eye into key transitions [fig.53]. This also creates the desired surface tensions that vibrate and add new atmospheres. The use of this style of drawing allows for the development of very physical waves of light and air that interact with the underlying layer. The drawing strokes push clouds of moving light to the eye. Our perception strives for deeper observation to enhance what the mind understands. As the viewer moves near or far the surface interaction changes quite dramatically because of the way the dots of colour vibrate at different distances. It can create the sensation of another layer of tone over the top, an illusion. This in turn can cause a disruption to the observer's focal point, their perception of depth from the viewed picture plane to the eye. A physical focal quality controlled by the viewer's own eyesight. When observing natural environments for periods the eye begins to see a lot of atmospheric vibration and waves of light. Relaxed staring produces quite vigorous waves of light and colour as the slightest eye movement carries after images and complementary colour signals.

The tensions between underlying virtual landscape images and the pastel marks on the picture surface can evoke quite firm viewer reactions. They are physical processes that occur in the eye when scanning the surface. They can impact on subliminal levels causing reactive responses of visual discomfort. These appear to be a form of unease due to optical effects.⁹⁹

The simplicity of the solution displays some parallels with the manner in which Rubens uses small echoing, and often, repetitive receding forms. He uses this approach to conduct the viewer's eye and extract implied surface movements over quite formal compositional structures.

Further drawings were developed that did not use any printed foundations. These works on paper utilized a limited colour range or just black and white palettes. The attention was concentrated on making quite minimal statements from virtscape scenes. A variety of solutions were investigated and refined, and although they have displayed quite unique qualities the outcomes would indicate that further time and development is necessary to fully exploit the possibilities of this approach.

⁹⁹ Vareley, op cit, pp.32, 142 and 148

5.7 Development: Studio Practice, Works on Canvas

The oil painting activity further continued the investigation into waves of visual energy between landscape components. New visual responses were enlisted by working on the larger canvas fields. The image transfer from the source material was mentally projected, that is without printing or technical aid, just eye and hand. Less detailed information was conveyed and represents a slightly different direction from the major printing based drawing series discussed previously.

The drawings provided ideas for other compositional directions that were translated and adapted to the shift in working scale. Some early landscape paintings studies executed in the early 1980s, [figs.13-14](although somewhat unresolved at the time), contributed to my interest in using painted solutions to express such spatial qualities. The question of how to express in paint what the eye and the mind had observed over some time was a constant challenge. The question of how to now express in drawing and painting what my eye and mind experience within a virtscape is a logical progression, a moving forward of the same issues that lie at the heart of this work.



Fig.54 Neil G McMasters, *Bucht Strasse paintings 6* .Development stage records , 2002 oil on canvas

The studio painting was contained to investigating a set of works that further explored some of the typical Australian landscape themes that had been developed and informed by the models. By using a flexible selection approach and multiple images I established compositions that would generate numerous surface responses on the one canvas. By using sets of images in each picture plane, the scale and dynamics provided a more immersion engagement than the smaller scaled drawings had. The content is reduced to repeating frames of images. The Bucht Strasse painting series (eg. Fig.52-53) uses ‘typical’ symbolic objects such as, gum trees, waterholes, open space, bushland, and big skies all placed in predominantly classical compositional arrangements. Each canvas carries two or three scene panels reflecting the multiple option character indicative of the computer environment that provided the initial visual content [fig.54]. This is also a form of serial work.

Using traditional oil painting techniques is a slow process involving the laying down of quite formal development stages with their inherent preparation and drying times that impact on each stage. Medium control and the creation of physical tactile surface qualities continually dominated the process and formed a stimulating contrast to the subjective questions that surrounded the subject matter. A familiar dance between

physical mark making and the desire to reveal as clearly as possible a new concept of a landscape statement infected the exercise.

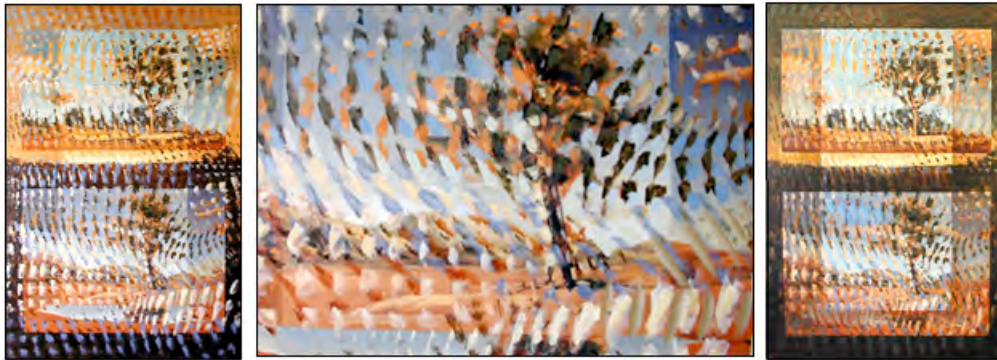


Fig.55 Neil G McMasters, *Bucht Strasse painting# 6*. Development stage records and detail 2003
oil on Irish linen

Studio work is the unpredictable part of the process. Partly because it relies on intuitive responses to the virtual images as either the drawing or painting development stages are undertaken, and partly because this is the sharp creative edge of the research. This is where the process of forming, expressing and articulating the relationships that appear to exist between key elements and their respective negative volumes takes place. It is the revealing process of spatial relationships inherent in each scene. It links multiple scenes as if time sequencing were threading the sets together. Nevertheless each scene is a quite specific entity that requires its own compositional refinement and specific treatment. The waves of visual energy within the picture planes are mobile across the boundaries and in places link the multiple scenes into a macro composition flowing across the canvas surface [fig.55].

This linking wave effect is an important quality when working in a somewhat subjective manner. Intuition and automatic responses are quite important elements. The aim here was to read and reveal the fields of light and air that flow across and between the surface images. A by-product of this technique and something also observed is the use of the staccato pastel applications is a flattening effect of the images. The surface vibration and brush marks unify and contrast with depth cues within the picture plane. This in turn negates the perception depth illusion and induces the mind to quickly take over producing a more relaxed reading. The more relaxed, the more sensitive is the response of the eye to the pulsing of shapes, cues and animated negative forms. An inherent energy exists within the work and the aim was to reveal it as much as possible while still holding the scenes in place.

The virtscape images contain a great deal of potential. One can easily imagine using other technical responses besides traditional drawing and painting such as hybrid immersion environments or large-scale projections on acrylic sheet for example. Equally, responding to the source via traditional techniques brings the virtual environments into line with a legacy of older studio conventions that for a very long time have been concerned with

picture making. It directly confronts the notion of technical ‘newness’ by absorbing it back into an established school of practice.

The outcomes of this approach are not altogether unexpected. The new source material turns out to be merely another foundation material and not especially different from the earlier engagements many artists have had with traditional source materials methods, still life and related observation techniques. For example, film, photography and video are more recent medium examples where the same has also applied.¹⁰⁰

On the technical side, the painting method of working up the surfaces over long periods can induce a sense of remoteness from the initial idea source. Concerns for paint quality, colour, glazing techniques, composition management and the continuity of the statement style all tended to impact on the practice. The sensual nature of working with oil paint as a medium constantly drew the mind into secondary engagements with surface matters. Long periods of contemplation were essential to bring the various threads together in each statement. It was a constant balancing exercise between the medium issues and the transfer of visual content. Although by its very nature the oil painting production technique did not produce the continuous spontaneity of the drawing sessions, it did however produce a deeper more sustained engagement with the materials. For example the building of paint layers over paint layers to refine the statements meant that the work took on some quite new directions resulting in fresh visual solutions.



Fig.56 Neil G McMasters, *Bucht Strasse* development studies 2002.
Pastel over digital photo, feedback samples

I was also able to use digital photography to record each stage and use the resulting images to evolve the next stage by drawing back over them [fig.56]. The repeated feedback and image refinement meant that the works encompassed solutions exclusively produced with this procedure. Some ideas were also refined using digital image manipulation methods combined with sessions of drawing directly over the top of the documented stages. A by-product of the development of digital image records was the

¹⁰⁰ Douglas Davis, 1973, *Art and the Future*
Thames and Hudson, London UK. pp. 52-58

development of several small mixed media series from the documentation of paintings under way.¹⁰¹

Within the painting studio I refined my ideas using formal compositions as the basis for the work and reduced the painting canvases to a very specific series of pictorial elements. These were derived from the source material and kept the serial dimension of the work clearly in view. The aim here was to increase and expose the contrast between the formal elements and the strong subjective responses they evoke [figs.57-58].

There is a point where they can exist in the same instance and be observed in the same picture and the studio techniques have been refined to achieve that outcomes.

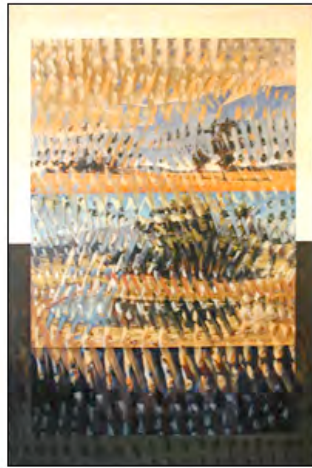


Fig 57 Neil G McMasters, *Bucht Strasse* painting 1 ,2002-03 oil on canvas



Fig.58 Neil G McMasters *Bucht Strasse* painting 3, 2002-03 oil on canvas

6 • Documentation

The documentation of the work has been generally facilitated using computer storage systems, photography, digital printed images and various catalogues.

All of the virtual landscape material is archived as digital files within a database where each set of models and their respective rendered images are stored. Most have been backed up on CD or DVD disks and secondary hard drives using Macintosh system formats. This database consists of hundreds of digital files. Some are vector 3D model sets and most others are specific rendered source material images from the virtual location models. Another group of relevant miscellaneous digital files exist that comprise multiple image composites for plotting and printing, alpha image maps for texture and surface mapping in the 3D models and also experiments that explored different paths deemed of some interest during the research.

The digital photographs from the field trips are also kept in digital format supported by several folders that contain hardcopy A4 size prints. A large journal and log of other

¹⁰¹ For example, the small Bucht Strasse pastels sets, see DVR, Digital Archive 1.2 Bucht Str. pastel studies, and Selected Artwork hardcopy samples

relevant study documents, exhibition information, media cuttings and research information has been produced. The main DVR (Durable Visual Record) / Exegesis writing and various essays produced during the project period are stored as MS Word and PDF files in computer storage as well as hardcopy archives. Some samples of portable web galleries and presentation galleries have been stored on CD as well.

The final DVR consists of a refined selection of this material collated into relevant sections and catalogued according to presentation specifications that includes CDs, DVDs, hardcopy inkjet prints along with text material including copies of the exegesis.

7 • Decision Making, Evaluation, and Feedback Processes

The project objectives can be understood by paying attention to the contrast between how the computer-generated material was created and how the studio pieces were created.

The computer models are the result of new, albeit somewhat classical mediums that exist in the form of software characteristics. By its very mechanical nature, the computer processing engines that drive the software tools of the new digital classicism are objective in character. An awareness of this and the way in which the images are plotted into prints tends to keep the mind focused on very rational interactions. That means keeping focused on the production tasks at hand. However, once deeply involved in building a 3D landscape model and the knowledge of the software tools has reached a high proficiency, the work often transcends the objective level and a creative flow takes place that can last for many hours. During this stage the ‘what if factor’ of computers is harnessed and multiple sampling allows critical aesthetic decisions to be based more on intuition than physical constraints. It is a powerful feedback system in that each work created can be investigated from multiple viewpoints in rapid succession.

The studio processes tended to also generate a creative flow by seemingly connecting with much deeper instincts and subjective responses. These two aspects symbolize the contrasting classic, and to a degree, romantic positions involved and highlight the threaded links this work has with many other landscape art examples. It must be accepted that the contrast between the components is a strong driver behind the project. Another clear intention was to mix the two disciplines and see what reactions resulted from the clash. The decision to confront this was based on a desire to dissimilate the mediums and their respective visual descriptors we so often make use of to un-package and understand landscape works of art.

Although this project is not specifically about classical and romantic issues it is recognized now that the leveraging of such contrasting creative schools of thought has had a positive and stimulating impact on many of the visual characteristics. The work aimed to establish a balance reflecting the physical tension within the various methodologies employed and their subjective influences. Some work sessions appeared

to progress tentatively as the drawing or painting activity did not respond to the virtual material. On occasions, production legacies highlighted technical difficulties that had to be overcome. Many influences lingered in the mind so the work was less likely to achieve its full potential if such elements were not clearly resolved through careful contemplation and analysis.

The notion of an artist arranged composition (the ability to approach landscapes with a similar control as that used in traditional small object still life work) stimulated many new interactions. It was often best to avoid over focusing on these factors when making the artwork. Resolving the various theoretical influences prior to starting by evaluating and understanding what had transpired often provided a better approach.

8 • Testing Concepts

To further investigate the interaction between the studio layering techniques and the computer-composed parts, studies were undertaken which utilized photographic landscape images and selected images of relevant old landscape paintings.¹⁰²

The photographs used were shot in Australia and Germany and attention was mainly focused on the atmosphere and light characteristics. The results were quite interesting, as the drawing layer process appeared to be just as intense and the responses quite independent of the any particular image source [fig.59]. The initial pictures were captured with a digital camera, downloaded to computer and then printed out using digital inkjet printing methods. Thus the underlying surface became a technical and an objective layer. What is important to bear in mind was that the pastel drawing layer over the photographic base was treated in the same way as the computer generated landscape bases. The photographic images utilized were also landscapes.



Fig. 59 Neil G McMasters, *Volksdorf morgon* 2002 Digital photo and conté pastel study over photo sample

Further exploration and testing along these lines was carried out utilizing the old master landscape paintings in the form of digital prints and then drawing over the top with pastels. Landscape artists that have been of particular interest during the project were chosen, these included Rubens, Claude, Constable and Friedrichs. The Rubens and

¹⁰² Refer to Durable Visual Record for further samples; Digital Archive: 1.5.1 Artwork-Artist referenced and sheet 9 Artist Referenced Artwork hardcopy samples .

Constable works chosen had been studied first hand at the London National Gallery as part of the research agenda. Low-resolution JPEG file formats provided sufficient print quality to convey enough image detail to work with. Although not overly detailed they presented a solid impression of the original work. The resulting drawing sessions were very intense, as they seemed to embody a slight symbolic quality and generated mixed feelings of respect and excitement at working with such well-known compositions. An intense sense of sharing when progressing the chosen compositions was quite an unexpected development. A possible reason for this response was no doubt the strong influence of romantic notions one tends to carry and develop when revisiting well-known and personally highly respected art pieces .



Fig.60 a.John Constable *Statford Mill* 1819-20 and, b.Neil G McMasters
After Constable- Statford Mill 2002, conté pastel on paper, atmospheric study sample

To increase the dimension of the findings further from this exercise I employed the practice of working on pairs in some cases, that is, each source work was printed twice and a pair or more of drawings were produced in the studio using pastels over the prints. The staccato pastel drawing technique was employed in much the same way as with the virtual landscape prints.

This act of making marks and adjustments to established compositions at first seemed slightly irreverent but quickly moved to a deeper respect for the unique qualities inherent in each landscape as the new statements evolved. Constable's *Statford Mill* [fig.60] and *Hay Wain* [fig.22] proved very intriguing as they are charged with a form of high symbolic status in western landscape art. The spatial material in the compositions responded quite naturally to my attempts to extract new expressions from the surfaces.

Ruben's *A View of Het Steen in the Early Morning* mentioned earlier also yielded very active responses as did all the other experiments along this line of research.¹⁰³ This piece was subjected to working in drawing pairs [fig.61] and proved quite valuable in establishing a clearer understanding of how he structures his landscapes and conducts the viewer's eye across the surface. These observations were fed back into the studio work. From this activity I concluded that what I was refining and responding to in the respective atmospheric areas of the old paintings was no different from the virtual responses in either photographic or other referenced history works.

¹⁰³ Refer also to Durable Visual Record, section 4, Visual Documentation of the Project, Part A; Selected Major Artworks and Part D, Digital Archives, Artist Referenced works



Fig. 61 Neil G McMasters, *After Rubens- A View of Het Stien x 2*, studies 2002, conté pastel on paper, pair study samples

Notable examples of this form of exploration can also be found in the work Frank Auerbach and Leon Kossof¹⁰⁴ who have made interpretive drawings from Constable's works, *the Hay Wain* and *Salisbury Cathedral from the Meadow*.

Auerbach an enthusiast of the Dutch landscape artists Koninck and Ruisdael articulated a good reason why many artists are drawn to working with landscape themes.

'Before abstraction, landscape was the abstraction of painting, the field where artists had freedom to release their formal impulses and the sky is the abstract element of the landscape'¹⁰⁵

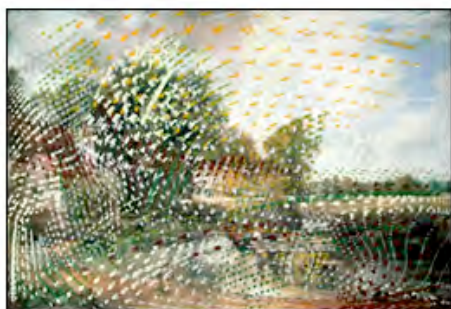


Fig.62 Neil G McMasters *After Constable, the Hay Wain*, 2002, Conté pastel over inkjet on paper



Fig. 63 Frank Auerbach *Drawing After Constable the Hay Wain* 1989, felt pen and crayon on paper

Although the exercise of working with photographs and old paintings produced some valuable responses, at the outset it was not altogether clear where this line of investigation would lead. Nor was it obvious how such concept testing work would be eventually used. In hindsight, the outcomes are reasonable yet by having no actual sustained experience with such processes it is hard to gauge the true value of the various responses. Overall this line of investigation confirmed many of my ideas about there being little difference between visual responses to actual and virtual sources or whether they are personal or acquired images.

¹⁰⁴ Morphet, op cit. p.42

¹⁰⁵ Catherine Lambert, Frank Auerbach, exh cat. *Frank Auerbach Paintings and Drawings 1977- 1985* British Pavillion,XLLII Venice Biennale, June- September 1986,pp. 6-16

III. Exegesis Part Three: Reflection and Evaluation

1 • Problems and Resolutions

This project has provided a range of different issues that were addressed and resolved. In these sections I will outline some of the key items and how they were handled.

The technical issue of how to achieve a transparency between the computer source work and the studio work is possibly the main one that comes to mind. The work produced in the virtual environment has a complex set of internal values bonded by its own characteristics. Objects created in that environment require a considerable amount of time to develop and evaluate. The project objectives placed this activity in context and in general identify the key points requiring focus. Most issues were overcome by time and effort responses once an initial evaluation had been made. A balance between realistic work practices and intuitive responses was often the key turning point in each set of work. Having several aspects of the work in train at any one time kept progress of the studio activity moving forward and when a particular thread of productivity took place it was usually pushed hard to maximise the results.

2 • The Virtual Building Process and its Nature

Most of the virtual building activity contained its own distinct creative flow, that is a form of momentum due largely to the familiarity factor as various structures and procedures took place. This flow produced a strong involvement and responsive relationship to each set of scenes developed. Although it is a very classical activity via its somewhat mechanical manner of engagement, it stirred some quite primal emotional responses to each virtual place revealed. In order not to become overly focused on just this particular phase of activity I endeavoured to transfer the feelings and reactions discovered into the studio work. The relocation of such intimate familiarity caused by the 'knowing of a newly discovered place', (ie. a virtscape) worked in the studio process also. The general solution was to transfer the sense of discovery directly using familiar elements and respond according to the mood within each scene.

3 • Using Traditional Painting and Drawing Mediums

The question of how to explore and exploit what was discovered in the virtual spaces and not let the media be the object of the experience was considered at length. The choice to employ traditional painting and drawing as the preferred forms of expression to deal with the virtual scenes was decided on quite early to achieve two goals.

Firstly, to separate the digital techniques or fingerprint from what was created in the virtual environment and secondly, to see what would happen when source material from the new media environment was subjected to a formal studio process invested with the strong historical traditions of a mature creative media.

There are several interface stages involved and in the final studio works the legacy of painting and drawing experience has been used to mature the material. This resolved the considerable influence of digital or technology driven results. It placed new material into a creative studio process that was independent and to some extent by design, remote from the character of the material being observed.

4 • Aesthetic Questions Concerning Space

Perhaps the most motivating aspect of the project has been the resolution of ideas concerning subject matter, its source and a personal interest in responding to spatial qualities, in particular the negative space between pictorial objects. Although the subject matter and pictorial themes carry Australian based characteristics the process employs modern technology to locate and convey its visual properties. By choosing this as the general premise, images produced in the computer environment have been informed by very subtle layers of knowledge gained from observation and first hand experience, and by identifying several generic cues that represent the Australian landscape.¹⁰⁶ I distilled a set of objects or icons that are common yet not overly charged with human and political intent. Some complimentary research questions came to mind. What is an Australian generic landscape and how should it look? How can I make a virtual landscape look like an Australian virtual landscape? My investigation led to the development of some very archetypical sets of landscape motifs within each virtual environment as a direct response to these questions. They in turn formed the base elements of the composed layers inside the structured images. It is akin to set building using the virtual objects as props. They are a separate idealized and virginal set of elements. Repetition and subtle variation coupled with the use of series and sets of works evolved as the solution and vehicle for expression. Within these parameters my search for fresh ways to reveal the energy within the spaces of the new subject matter became possible and the digital involvement took on a more subordinate role allowing the subject matter and my engagement with its spaces to direct the works.

¹⁰⁶ In reference to representations of a generic Australian landscape, includes: the bush, gum trees, water holes, dams, big skies, the old desert, open spaces, and, the mood of light in particular geographic locations.

5 • The Tension between Intuitive and Constraining Activities

Apart from the initial experiences such as object creation and the development of characteristic aspects within the digital environment, a clear demarcation existed in my mind about what specific tasks were required and what each stage represented. This is not to say that it was a simple trail of logical steps. Far from it, many models and attempts were disbanded due to a lack of clarity or relevance though they were none the less useful exercises to test ideas and observe lateral results. Decisions to work on particular themes in each set tended to bring to the surface questions about the look and feel of the source or composed parts. Once an image was rendered and transferred to print or prepared as part of a painting composition, the issue of the new technology played a minor role. Certainly within the modelling environment there are many physical constraints governed by technology prices and accessing equipment, but once an acceptable balance is adopted the creative process dominates and the intuitive qualities of making art apply just as readily as they do when working on canvas or paper. Decisions that govern the look and feel of the image draw on the same knowledge base and once a fluency of operation is reached in the computer environment I found very little difference in how I approached the creative tasks.

General technical problems whether computer or studio based were normally resolved by making pragmatic or inspired lateral decisions. An honest assessment of what is required within the scope of the project, its specific time frame and the creative intent needed a realistic evaluation of what is physically possible. Most computer environment issues revolve around standard data management matters such as file storage, software stability, operational skill, output devices, output medium, or colour fidelity. No major problems were encountered at this stage of the project as some very realistic decisions were made at the outset about the level of technical engagement and what would be sufficient to test my research questions.

On the studio side a large amount of time and effort was consumed searching for a balance between the computer landscapes motif in use and articulating perceived energies within the image's space. The latter is a very intuitive process that requires, touch, feeling and a sense of mood concerning each landscape sourced from the computer environment. Some drawings took quite long periods to resolve and as with many creative endeavours tended to move at differing paces from week to week and from artwork to artwork. Working in sets and series tended to contain this effect a little and in the *Bucht.Str.* canvas set, six large works on canvas [fig.65], all were progressed at the same time over a period of several months. As the paintings are oil on linen there is also a slow technical process in train as the surface is quite complex and construction stages take time for the layers of paint to dry. This journey was akin to discovering what each studio picture will allow me to reveal as they moved towards a conclusion. The source material provides compositional information and the painting process absorbs and integrates its subject material with the aid of very personal mark making activities.

All of the drawings and all the paintings have a vibrating energy characteristic that is indicative of both natural observation and to a small degree, a fidelity to the digital environment that is quite complementary in an odd way. It may be a subliminal recognition and a comment on the nature of various visual interfaces being experienced by the physical interactions within the exercise.

6 • Selection and Consolidation of Work

The creative methodology has tended to establish dominant threads and themes within the virtual building environment that crossed to the studio works. By its very nature the computer environment generates many sets of files, a feature which I tried to capitalise on and convert into studio practice. Bear in mind that I looked at the virtual models in a similar way as I would an actual still life arrangement and it was a logical outcome to develop sets faced with ‘multiple option’ influences. It was a direct yet measured response to the process without being too overwhelmed by new media or special effects albeit a small concession.

The Australian landscape imagery also included influences from experimenting with European landscape. These provided a useful contrast and assisted in clarifying the Australian characteristics that have been refined in the major pieces.

The exercise of drawing over landscape photographs sourced from field trips and selected old painting landscape prints have had two quite useful outcomes. One, an understanding of how space and energy works within a formal composition and two, how my own reaction to spaces are affected by the general atmosphere to a sizeable degree [fig.60].

Some of the project artworks also have several regular formatted parts, that is, units of small self contained images making up each larger set in a grid structure that can be exhibited in various arrangements of the component parts, for example, grids, lines, horizontal, vertical or diagonal, suspended and so forth [fig.66]. Rectangular grids tend to reflect the nature of the image source and engage the viewer in the picture plane by exploiting the familiar (display format) interface. It reinforces the formal nature of the compositions by also harnessing historical Western pictorial formats and reflecting some traditional pictorial metaphors.

7 • Evaluation of Work in Relationship to the Research Questions

The studio works are predominantly landscape in style and host layers of information derived from digital source material and direct observation of natural phenomena.

This is evaluated in three parts –

7.1 The Influence of Digital Material

‘What influence will digital landscape source material have on the formation of pictorial landscape characteristics when transcribed into studio based art making activities?’

The digital environment certainly generates a considerable amount of visual material in a very short time and is well known for the ‘what if’ nature of its construction processes. The project has harnessed this feature in a methodical way as indicated previously. Once a ‘virtscape’ is established within the computer it is quite a rapid process to move the key elements around in the Cartesian space and test out many possible arrangements. That characteristic has been a key component in the way in which the source material has been used in the studio. Multiple options in the digital form influenced the desire to use multiple options in a studio form employing traditional materials. A key solution came in the shape of outputting the images as prints and then drawing directly on top of them. A normal drawing session could produce multiple options however within the digital environment, an expectation that the use of multiple options was possible often led to an increase in this form of work practice. I observed that where in my former years I had used limited multiples due to production time constraints, the number had increased noticeably the further I progressed into the project. As commented on previously it may also be a result of an imposed working system in order to keep to a defined format, or in order to break with or vary it.

Another quite obvious influence within the studio work was an enhanced awareness of spatial qualities and their respective atmospheric effects. This was due to the technical tools ability to change lighting and atmosphere in the digital environment and thus extending my sensitivity and reactions to the increased range of landscape motifs.

My reactions to a virtual or an actual image are (in a physical sense) much the same and I do not find the visual mechanics very different once enough realistic cues are in place and the whole image is in synchronization. Because I have been able to create, that is to actually make the virtual landscapes completely, I have endowed them with personal meaning and thus my reactions to them are more personal than when I casually encounter other realistic landscapes models. However, a natural landscape still carries a sense of scale, immersion and often wonder, which is quite another matter for discussion well beyond the scope of this project. The contrast however is worth noting as I think it raises some questions about emotional and romantic themes. To explore this idea a little further I looked at some very notable Romantic landscape painters and experimented on prints of their works with the same drawing technique I used on my own virtual prints. Constable, Friedrich and Rubens provided excellent samples. What I found was a quite different response in emotional involvement, less personal but very conscious of sharing a composition with a respect for the artist and with a touch of reverence the more I came to know the works. However, the digital landscapes evoked a more personal mood. When looking at digital samples produced by others I naturally tended to sense a more remote response.

The formation of studio works based on my own digital landscapes carried a legacy of personal observations and harnessed an established engagement with landscape motifs.

7.2 The Use of Landscape Characteristics

‘How can traditional metaphors of landscape genre effect the characteristics used in the creation of digital landscape models?’

Traditional landscape genre impacted strongly on the decisions of what was going to be constructed and arranged in the models. A tendency to test ones ability to recreate nature can be intoxicating initially but once a composition is underway and a creative flow is in train, many decisions are made without being very conscious of why. For example, when scaling trees or forming hills the visual results are dictated by an understanding of where forms go and what they look like. Much of this activity is informed by memories of paintings and first hand observations. The role of instinct and assumptions directly influences many aesthetic decisions by drawing on memory when the work sessions take place. Landscape characteristics are embedded values within each individual and although we share a common awareness of various elements or locations, how we see and perceive the place is a very individual pursuit. The more we study clouds, skies, land, water, trees and all the various parts and combinations, the more individual each person’s vision of the world becomes. Pure landscape forms tend to be very non-political and at times independent of human influence, a fascinating subject to entertain. It certainly is a very dynamic vehicle for stimulating perception and how we see the world. Some quite obvious experimental possibilities exist to produce all manner of extreme distortions and impossible virtual places using the current software tools, but this common path held very little intellectual appeal or stimulated my mind as much as the creation of realistic styled models. I suspect the reason for that may lie with the fact that I have worked with digital media for many years and do not get excited over the abundant and obvious non-realistic options offered by the tools. A core motive for using Australian landscape as a subject was to make visible my own observations and perceptions. To manifest what I see and interface with in this world via an expressive form whereby the elements used closely relate to the actual environment. It provided a more focused range of possibilities than just using a generic virtual landscape.

7.3 The Role of Personal Aesthetics, Australia

‘What role will personal aesthetics values play in the use of computer-generated subject matter when employed to create landscape forms of artwork in a studio process?’

I was very conscious of the classical nature of the digital scenes and let this quality contribute to the composition settings. Why? Because I felt it was more honest to the nature of the medium. The computer medium is predominantly an objective environment and has an elegant precision about its operational nature. This aspect is in direct contrast to how I related to the images in the studio. There, I tended to move into a very subjective and intuitive mode.

The work linked contrasting pictorial elements and work methods to affect that goal. It is easy to isolate a new media process and let it be the subject of investigation by itself and virtual environments are no exception, but I find it more engaging to see what takes place

when the traditional aesthetic momentum engulfs a new visual activity. Traditional landscape painting and drawing from the 17th and 18th century has played a major role in the development of Australian landscape aesthetics. The result was the evolution of distinctly national images and genre, in particular work from the late Colonial and Impressionist schools of Australian art. These influences also have come back to shape parts of this work and its aesthetics through the deliberate use of old canons, former spatial arrangements that I have applied to both the source material and the studio work. I personally find the process of image making that is removed of critical or fashionable trends and such constraining criteria a more challenging form of expression at this stage of my artistic development.

A great deal of the current landscape art making practice is concerned with the human involvement whether political or romantic. Excellent examples of this can be found in the work of such artists as Anselm Kiefer^{107 108} and Richard Long¹⁰⁹. The work of the German artist Kiefer proved to very valuable in the manner in which he generates landscape and cosmos images that carry multiple levels of meaning can be seen in such samples as *the Milky Way* [fig.62], and *the Sixth Trump* [figs. 63]



Fig.64 Anselm Kiefer *The Milky Way*
(*Die Milchstraße*) 1985-87
mixed media on canvas



Fig.65 Anselm Kiefer *The Sixth Trump*
(*Die Sechste Posaune*) 1996
mixed media on canvas

In the *Sixth Trump* Kiefer depicts the landscape after the biblical Apocalypse, no angel, no trumpet just the expanse of a landscape devoid of humanity except for the weathered plough marks. Yet this absence seems charged with humanity and comment. In other works such as *the Secret Life of Plants* 1998, he uses actual plant material and a range of mixed media to construct pictures that links the human condition to the his landscape. This works as a vehicle for narrative and alchemy styled statements. Although Kiefer's works are physically far different from the project work at hand, they do carry a

¹⁰⁷ Ciuha, Delia (ed.)2001, *Anselm Kiefer.the Seven Heavenly Places*
Fondation Beyerler Hatje Cantz, Ostfildern-Ruit Germany pp.75-91

¹⁰⁸ Morphet, op. cit. pp.191-201

¹⁰⁹ Gooding, op. cit. pp. 127-137

resonance of a similar complexity in exploring new mediums and materials to express and make landscape art. Complex mediums mixes are often distilled into quite straightforward and clear statements and Kiefer's contemporary approach to landscape art making reinforced my own convictions about drawing on a range of diverse factors. His use of established values in the German landscape context assisted in adding clarity to my own use of an Australian context when dealing with the aesthetics of computer landscapes and traditional Western landscape influences.

Other current practice is more concerned with new media effects to illustrate or translate captured images and use technology processes such as full immersion virtual reality displays and simulators. All this is quite relevant and important work but I find often devoid of firm links with our aesthetic foundations. Most of these new forms of expression have roles to play and I also suspect that rocking aesthetic foundations is an easier route than working with them in this current period. Using such links in an obvious and formal way may appear to be another 'neo-ism or post something' when taken in a historical or critical context.

This work allowed the legacy of aesthetic traditions, in particular the Australian line of development to fuse with the virtual subjects and in turn reinforce qualities that have a strong visual style. The inclusion of such metaphors for landscape form overcame many of the new media qualities and allowed for a more transparent handling of the subjects used in the research to make new artwork.



Fig.66 Neil G McMasters, Hamburg studio photograph 2002, work in progress

However, in the studio context, it is a vibrant, complex and challenging aesthetic to engage with as it takes on a natural process of renewal from former ideas. This work draws from and then returns content to the ongoing aesthetic streams that we recognise as art making traditions. It places them into a new context that is demonstrated in a physical way through my recent work [fig.66].

IV. Exegesis Part Four: Conclusion

1• Finalization and Exhibition of Resolved work

After three years of intense studio activity a very large body of work has been produced. The major works fall into 2 main groups, the oil paintings and the drawings and these two groups comply with the stated aim of the project proposal for utilizing traditional painting and drawing techniques to investigate the use of virtual landscape source material.

The final year of the program has witnessed a concentration of effort on the six large canvas works and a further development of several new drawing sets. No major virtual landscape modelling has been under taken as the hundreds of scenes from the first stages of the project have provided ample content with which to work.

The final exhibition work is a selection of these two groups of activity. The six large canvases, although stand-alone pieces are closely related in formatting and composition and will be presented as a group. The four major drawing sets will be complemented by exhibits of some smaller works. All works will be wall mounted and displayed in the Art and Culture Gallery at RMIT. A selection of various supporting material is also available in folio format and booklets. This material provides a clear overview of all the main models and studio development work. A catalogue made up of small printed thumbnail images documenting the various processes is available. Digital material will also be made accessible on CD and DVD for viewing in a digital form.

2 • Contribution of the Project: to the Professional Development of Candidate

This project has focused my attention on developing various threads of professional interest via my studio practice.

It takes:

- drawing styles that has evolved over several years,
 - my keen interest in exposing and visually articulating negative spaces,
 - established skills and experience in 3D computer modelling,
 - a renewed interest in formal picture making using oil painting,
 - mixed with a healthy appreciation of my aesthetic roots,
 - a renewed desire to work with the typical Australian landscape genre,
 - a new pictorial metaphor
- and, places all of these factors into one related research activity.

The outcomes have been diverse to say the least but within the projects time frame a considerable amount of progress has been made in synthesising art works from the various sources. In retrospect I would probably reduce the number of activities even further as the program time frame has not allowed me to fully do justice to the potential scope of this dynamic mix. As always with art making, it would now appear to be only signifying another beginning. Thus, with a more specific task and far more time, a deeper appreciation of the subject area would be possible. The documentation of development stages via digital means has allowed the growth of several lateral experiments from early studio activities. The very nature of their respective studio processes and subsequent limitations did not lead to mature work yet were quite valuable in assisting to refine the research focus.

This is not to imply that I have not made considerable professional progress, far from it . The recent studio work such as the *Bucht Str.* painting series (works of canvas) [fig.65] has been very exciting, innovative and comes to grips with the scope of the project whilst visually resolving key aspects of the research questions.



Fig.67 Neil G McMasters, *Bucht Strasse paintings set 1- 6*, oil on canvas. Hamburg 2003

A major development has surfaced within the painting and drawing techniques I have used to explore the spatial issues in the work. A more refined and clear play between the surface and the fields of space via the use of visual surface energy has now evolved. This aspect coupled with the creation of symbolic Australian landscape imagery and the use of formal source material has produced in excess of one hundred pieces of new work and greatly refined many elements I use in my art making practice.

3 • Contribution of the Project: to Contemporary Art Practice

Firstly, the resulting works establish a new path between our formal pictorial links and landscape making studio practices by employing the use of the digital environments in a unique way. It takes the artist arranged compositional tradition that evolved in early still life practices and assigns a similar purpose to the use of 3D digital landscapes. It turns the computer environment into a traditional studio tool by exploring the resulting composed subject matter in a formal manner. It does not find any great difference between the way in which the process works in the final visual interface and as such demonstrates the proposition that our visual responses to virtual and actual cues are quite similar.

Secondly, the project has produced a very new and distinct visual (Australian landscape) language as a result of the virtscape input. The identification of generic elements that constitute an Australian landscape character is defined by the use of common landscape parts. This can be described as a virtual Australian landscape ethos, a type of cultural sovereignty that is housed in a digital environment form. The input from field studies and the subsequent creation of digital records has contributed to this imagery. Several sets of work have been created that have a new classical and national quality embedded in them. This was a direct outcome of the computer influence on the initial composing of digital models and the resulting freedom of recycling elements across several environments. The repeated interaction with objects and multiple image sets refined my awareness of what constituted a national style of landscape model. I am not asserting that it is the only solution or that the elements used are totally new distillations of Australian landscapes. What I am proposing is that it is a reinforcement of core visual icons via the melding of traditional and new technologies that has produced original artwork.

Other significant contributions relate to the issue of surface space and the various ways in which it can be articulated in a formal picture plane. These works explore new ways of articulating spatial volumes by using layers of contrasting elements to make my feelings and observations clear to the viewer. They set out to evoke visual tensions by generating considerable movement across the picture surface using dual layers and invite the observers mind to complete the implied negative forms. Several earlier periods of artistic practice from Titian to Cézanne and more recently Kiefer have been concerned with similar surface animation issues.

Not by intentional design but more by a process of osmosis from using multiples and sets of images, the project has contributed a new body of work to the tradition of 'series' art making. This is demonstrated in the *Molort Planes* [fig.66] and *Geo set* [fig.37] drawings in which the final works consists of a grid of repeating serial images. Monet's *Grainstacks* are an important precursor to this tradition and in the 20th century this form of expression has been expanded by many artists.



Fig.68 Neil G McMasters, *Molort Planes set*, Melbourne 2002,conté pastel over inkjet on archive paper.

These contributions to contemporary practice demonstrate the importance of building on our previous visual links and traditions. It acknowledges the subsequent influences and, via practice and applied analysis it assists us to appreciate the visual material sourced from new environments. It embraces the various parts of this diverse studio based activity by forming a constant relationship with our past and current traditions. At the same time the work produced is challenging our assumptions of what constitutes a relevant form of expression at this point in history.

4 • Concluding Comments

This research project addressed and responded to three questions that revolved around the use of virtual landscapes as source material for painting and drawing. Firstly, the research explored and used traditional landscape metaphors in the creation of 3D digital landscape models by utilizing an Australian context as a tool to sharpen the research focus and extract as much content as possible from the newly created environment. It explored how digital source material could influence and be incorporated into a creative studio practice by utilizing traditional mediums.

The project also highlighted the unexpected desire to explore and unite the contrasting qualities of discipline and obsession through the use of constructed working systems and a subsequent need to break and or vary with it. This is evident in the investigation and development of sets and serial works where variation and subtle differences highlight the conditions that multiple image making processes impose on studio solutions.

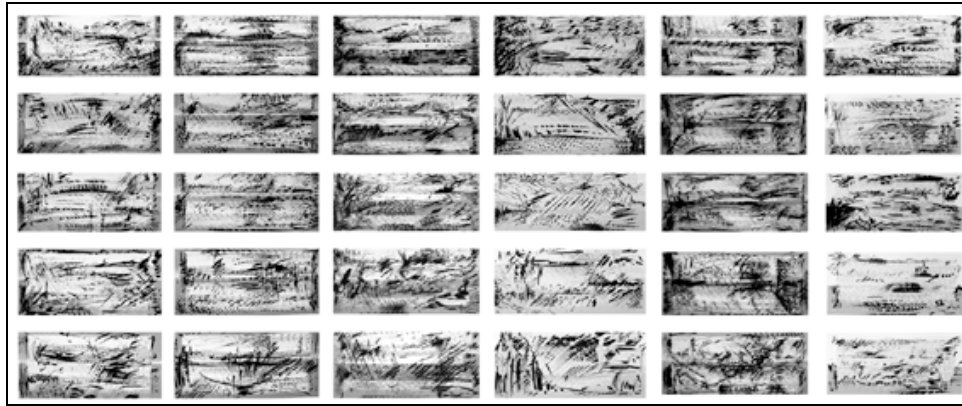


Fig.69 Neil G McMasters *Virtual places* 2003; pastel over inkjet on archive paper; 30 panels x 45 x 21 cm

Finally, it looked within the studio processes of both the virtual and the actual and explored how personal aesthetics play a major role in the interpretation of the new content and how it is deployed. The research produced evidence that our mind and visual senses respond to both actual and virtual environments in much the same way. These findings helped rationalize the outcomes and absorb the creative work back into the mainstream of traditional landscape painting and drawing. The source of content and how we respond to it is quite similar to how earlier established schools of practice responded to fresh visual territory. Virtual landscape environments occupy a place in our minds and in turn can share in the same general aesthetic.

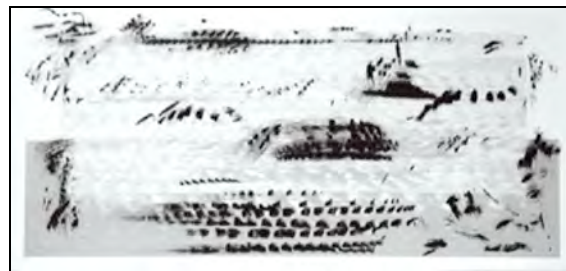


Fig. 70 Neil G McMasters, *Virtual Place 1. 5* 2003; pastel over inkjet on archive paper 45x 21 cm

Above all, this research project has extended and matured several threads of my ongoing professional practice. It has achieved this by increasing my knowledge, challenging my aesthetic assumptions, and importantly, fuelling my passion for exploring further the spatial qualities experienced between perceived objects. How our mind interprets and reacts when confronted with new visual cues continually surprises and excites our imagination to respond in a creative manner.

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Appendices

Bibliography, List of exegesis illustrations, Methods documentation.

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Miegroet, Hans J. Van, *Still Life*, ed. L. Macy
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<http://www.artgallery.nsw.gov.au/>
<http://gallery.euroweb.hu/index1.html>
<http://www.worlds.net/info/aboutus.html>
<http://www.worlds.net/alphaworld>
<http://www.veiwpoint.com> (no longer active)
<http://www.virtpark.com>
<http://www.vterrain.org/>
http://www.simbirsoft.com/portfolio/3d_modeling/
<http://www.officetowers.com/>
<http://www.3dgallery.com/3dg/3dgallery/3dgallery.html>
<http://www.halcyon.com/alrives/brycetips/index1.html>
<http://www.ngv.vic.gov.au/>
<http://gallery.euroweb.hu/html>
<http://www.nationalgallery.org.uk/collection/artist/default.htm>
<http://hungart.euroweb.hu/>
<http://www.artsjournal.com/issues/virtualart.htm>
<http://www.virtualmuseum.ca/English/Exhibits/index.html>
<http://www.ngv.vic.gov.au/collection>
<http://www.wired.com/news/culture>
http://www.asiadrasons.com/australia/arts_and_culture/
<http://www.ozartnet.com.au/default>

<http://www.rmit.edu.au>
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<http://www.ica.org.uk/>
<http://www.lacma.org/>
<http://www.centrepompidou.fr/Pompidou/Home.nsf/docs/fhome>
<http://www.ntticc.or.jp/>
<http://www.zkm.de/>
<http://www.tate.org.uk/britain/default.htm>
http://on1.zkm.de/zkm/linklisten/texte_zur_netzkunst_I
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<http://www.guggenheim.org/>
<http://www.walkerart.org/jsindex.html>
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<http://www.whitney.org/>
<http://www.documenta.de/>
http://www.artcyclopedia.com/artists/williams_fred.html
<http://www.ibiblio.org/wm/paint/auth/friedrich/>
<http://www.me.com.au/williams/index.html>
<http://www.ausart.asn.au/>
<http://www.art-gallery.com.au/>
<http://www.grammatron.com/>
<http://fakeshop.com/>

Final Project Exhibition Photos :

<http://homepage.mac.com/neilgmcmasters/PhotoAlbum3.html>

Appendix 2 : List of Exegesis illustrations

1. Exegesis illustrations

Figure.1 Neil G McMasters, *Yarra Valley* 2002, conté pastel over inkjet on archive paper; 34cm x 64 cm

Figure 2 Martin Murphy, *Piano and Papers* © 1999. 3D interior, digital image, variable size

Figure. 3 Brian Hitney, *Ferrari* ©1999. 3D product visualization sample, digital image, variable size

Figure. 4 *Walking with Dinosaurs*, 2000 digital video frames © BBC Worldwide Ltd.

Figure. 5 Neil G McMasters, *Water Hole 2.7*, 2001,digital Virtscape / source image, variable size

Figure. 6 Sydney Nolan, *Image #5* 1986, raster graphic image, Quantel Digital Paintbox montage, video frame, curtesy Griffin Productions London

Figure. 7 Richard Voss *Changing the Fractal Dimension*, 1983, digital animation frames

Figure. 8 *The Road to Point Reyes* by the team of Loren Carpenter, Tom Porter, Bill Reeves, David Salesin and Alvey Ray Smith. 1986, digital image, variable size

Figure. 9 Peter Weibel, *The Wall, the Curtain Lascaux* 1999, Kunstlerhaus Vienna, digital frame: photograph by Christian Wachter

Figure. 10 Jan van Kessal, *Europe* 1664-66 Oil on copper panel; centre panel 48.5 x 67 cm, 16 plates 14.5 x 21cm each, Alte Pinakothek Munich

Figure. 11 Neil G McMasters, *Dam set 1*, 2001, Conté over Inkjet on watercolour paper; 66 x 82.5 cm

Figure. 12 Neil G McMasters, *Dam 1.30 am. (v 2.15)* 2001-02, digital Virtscape, variable size

Figure. 13 Neil G McMasters, *Air colour* 1984, acrylic sketch on canvas; 30 x 20 cm

Figure. 14 Neil G McMasters, *Aus River dotted* 1991, digital drawing on digital

photograph, variable size

Figure. 15 Paul Cézanne, *La Montagne Sainte-Victoire* 1904-06, oil on canvas;
60 x 72 cm Kunstmuseum Basel

Figure. 16 Claude Lorrain, *Landscape with the voyage of Jacob* 1677, oil on canvas;
71.5 x 95 cm Francine Clark Art Institute, Massachusetts

Figure. 17 Nicholas Poussin, *Landscape Man killed by a snake* c.1648, oil on canvas;
119.4 x 198.8 cm London National Gallery

Figure. 18 John Glover, *Ulswater Cumberland* 1840 oil on canvas; 74.6 x 113 cm
National Art Gallery Victoria

Figure. 19 Hans Heyson, *A Lord of the Bush* 1908, oil on canvas; 134 x 103 cm
National Gallery Victoria

Figure. 20 C.D. Friedrich, *Kreidelfelsen auf Rugen*, 1818, oil on canvas; 90.5 x 71 cm

Figure. 21 John Constable, *Dedam Vale* 1828, oil on canvas; 145 x 122 cm
National Gallery of Scotland

Figure. 22 John Constable, *The Hay Wain* 1828, oil on canvas; 130.5 x 185.5
London National Gallery

Figure. 23 John Constable, *The White Horse* 1819, oil on canvas; 131.4 x 188.3 cm
Frick Collection New York

Figure. 24 Titian (Tiziano Vecellio), *The Death of Actaeon* 1550-60, oil on canvas
178.8 x 198.1 cm London National Gallery

Figure. 25 Tintoretto (Jacopo Robusti), *The transport of the body of St. Mark* (detail)
1566, oil on canvas; 397 x 315 cm Gallery Accademia Venice

Figure. 26 Peter Paul Rubens, *A view of Het Steen in the Early Morning* 1636,
Full title: *An Autumn Landscape with a View of Het Steen in the Early Morning*, oil on oak panel: 134.6 x 236.2 cm National Gallery London

Figure. 27 Louis Buvelot, *At Lilydale* 1870, oil on canvas; 76.1 x 101.6 cm
National Art Gallery New South Wales

Figure. 28 Lois Buvelot, *The watering Place* 1873, oil on canvas; 38 x 59.4 cm
National Gallery Victoria

Figure. 29 David Davies *A hot day* 1888, oil on canvas; 59.4 x 90 cm
National Gallery Victoria

Figure. 30 Arthur Streeton *The purple noon's transparent might* 1896, oil on canvas; 123 x 123 cm National Gallery Victoria

Figure. 31 Fred Williams, *Upwey landscape* 1965, oil on canvas; 87.5 x 180.2 cm National Gallery New South Wales

Figure. 32 Dale Hickey, *Cottlesbridge landscape* 1980, oil on canvas; 224 x 198.6 cm National Gallery Victoria

Figure. 33 Neil G McMasters, *Virtscape construction illustration* 2002.

Figure. 34 Neil G McMasters, *Organic forming* 2001, digital virtscape 2000, digital virtscape; variable size

Figure. 35 Neil G McMasters, *Central Victoria*, 2000-2002, Serial digital photographs, field trip samples

Figure. 36 Neil G McMasters, *Flinders Ranges*, field trip 2000, photographic samples

Figure. 37 Neil G McMasters, *Geo set (detail)* 2001, conté over inkjet on watercolour paper; 3 of 6 panels 82.5 x 66 cm each

Figure. 38 Neil G McMasters, *European sky studies* Dornburn, Stocksee and Volksdorf 2000-01, digital photographs, sky samples

Figure. 39 a. Neil G McMasters, Volksdorf Germany 2001
b. Flinders Ranges Sth. Australia 2000, photographs, summer light samples

Figure. 40 Claude Monet, *Grainstacks At the end of summer* 1891, oil on canvas; 56.4 x 98 Musée d'Orsay

Figure. 41 Claude Monet, *Grainstacks End of Summer Evening effects* 1891, oil on canvas; 60 x 100 cm The Art Institute of Chicago

Figure. 42 Neil G McMasters *Molort Planes 4.* 2002, conté over inkjet on archive paper; 45 x 30 cm 1 of 15 drawing panel set [see fig.66]

Figure. 43 Neil G McMasters, *Molort Planes 5.4* 2002, conté over inkjet on archive paper; 45 x 30 cm 1 of 15 drawing panel set [see fig.66]

Figure. 44 Neil G McMasters, *Ridge Angle 1.3.8* 2002, digital virtscape; variable size, 3D technical creation sample conveying subjective mood

Figure. 45 Neil G McMasters, *Highlands set 2*. 2001, digital composition layout utilizing 6 virtscape ready for printing; variable size

Figure. 46 Pieter Claesz, *Still Life* 1633, oil on oakwood panel, 38 x 53 cm
Schoß Wilhelmhöhe Kassel

Figure. 47 James Rosenquist, *House of Fire* 1981, oil on canvas; 502.9 x 198 cm
Metropolitan Museum of Art New York

Figure. 48 Neil G McMasters, *Highlands 2.7, 3.0, and 3.2* 2000 – 2001, digital virtscape terrain, component sharing sample; variable size

Figure. 49 Neil G McMasters, *Bridgewater Dam and Gum* 2001, digital photo; 2.1 Megapixels

Figure. 50 Neil G McMasters, *Waterhole tree and cloud* 2001, virtscape digital image; variable size

Figure. 51 Neil G McMasters, *Gum 2.2.6* 2001, digital virtscape, classic composition sample; variable size

Figure. 52 Neil G McMasters *Molort Planes 1.1.22* 2002, conté pastel over inkjet on archive paper; 30 x 45 cm

Figure. 53 Neil G McMasters, *Highland and Dam 1* (detail) 2001. conté pastel staccato sample over inkjet on water colour paper; [full size 93 x 59.5 cm]

Figure. 54 Neil G McMasters, *Bucht Strasse paintings 6*. development stage record, 2002 oil on canvas; 197.5 x 131.4 cm

Figure. 55 Neil G McMasters *Bucht Strasse painting 6* development stage records and detail 2003, oil on canvas; 197.5 x 131.4 cm

Figure. 56 Neil G McMasters, *Bucht Strasse* development studies 2002, pastel on digital photograph, feedback samples; 15.5 x 10.5 cm each panel

Figure. 57 Neil G McMasters *Bucht Strasse painting 1* 2002-03, oil on canvas; 197.5 x 131.4 cm

Figure. 58 Neil G McMasters, *Bucht Strasse painting 3* 2002-03, oil on canvas; 197.5 x 131.4 cm

Figure. 59 Neil G McMasters, a. *Volksdorf morgan* 2002, a. digital photograph and b. conté pastel study over photograph, sample; 24 x 17.8

Figure. 60 a. John Constable *Statford Mill* 1819-20 oil on canvas; 127 x 182.9 cm Private collection.

b. Neil G McMasters *After Constable Statford Mill* 2002, conté pastel on paper, atmospheric study sample; 30 x 45 cm

Figure. 61 Neil G McMasters *After Rubens A View of Het Stien x 2*, studies 2002, conté pastel on paper, pair study samples; 25.2 x 45 cm, each panel

Figure. 62 Neil G McMasters, *After Constable, the Hay Wain* 2002, conté pastel over inkjet on archive paper; 30 x 40 cm.

Figure. 63 Frank Auerbach, *Drawing After Constable* 1989, felt pen and crayon on paper; 28.1 x 41.2 cm

Figure. 64 Anselm Kiefer *The Milky Way (Die Milchstraße)* 1985-87 mixed media on canvas; 380 x 560 cm Albright Knox Art Gallery Buffalo

Figure. 65 Anselm Kiefer *The Sixth Trump (Die Sechste Posaune)* 1996 mixed media on canvas; 520 x 560 cm Private collection

Figure. 66 Neil G McMasters, Hamburg studio photos 2002, work in progress

Figure. 67 Neil G McMasters, *Bucht strasse paintings series 1- 6*, oil on canvas, Hamburg 2003; 6 paintings x 197. 5 x 131. 4 cm each

Figure. 68 Neil G McMasters, *Molort Planes set*, Melbourne 2002, conté pastel over inkjet on archive paper; 15 panels 45 x 30 cm

Figure. 69 Neil G McMasters *Virtual places* 2003; pastel over inkjet on archive paper; 30 panels x 45 x 21 cm each

Figure. 70 Neil G McMasters, *Virtual Place 1. 5* 2003; pastel over inkjet on archive paper 45 x 21 cm

Appendix 3 : Research Methodology

Using the initial research questions and objectives as a general guide the methodology of this project was implemented following the established proposal schedule. To better appreciate the various parts that constitute the body of this research, the following information short lists and summarises key project research activities and essential components.

1. Field Trips:

Australia

- Great Ocean Road, Vic	1 trip x 4 days 2000
- Shark Bay/ Broome, (aerial), WA	1 trip x 1 day 2000
- Flinders Ranges, SA	1 trip x 10 days 2000
- Central Victoria, Vic	8 trips x 18 days 2000-02
- Bridgewater District, Vic	2 trips x 10 days 2000-01
- Macedon Ranges, Vic	1 trip x 1 day 2001
- Yarra Valley, Vic	3 trips x 3 days 2000-02

Germany

- Stocksee, Schleswig Holstein	5 trips x 23 days 2000-2002
- Volksdorf, (rural), Hamburg	10 trips x 10 days 2000-2002
- Schwäbisch Hall, Bayern	1 trip x 2 days 2001

Crete /Greece

- Kedros, Idi, Mt. Lefka, Samarias, Improu	1 trips x 5 days 2002
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Austria

- Dornbin (mountains and rural) Voralsburg	1 trip x 3 days 2001
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Italy

- Rome - Venice	1 trip x 7 days 2001
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Taiwan

-Taipei (rural)	1 trip x 3 day 2002
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2. Digital Photographs / field trip reference source images:

- Australia	500 + images also [35+ analogue images]
- Austria	16 images
- Crete	42 images
- England	18 images
- Germany	105 + images
- Italy	19 images
- Singapore	26 images
- Taiwan	12 images

3. Studio Production of Digital Source material:

Virtscape Sets:

- Aerial 2 x source images 2/2001
- Big Desert 4 x source images 7/2000
- Blur Burg 12 x source images 6/2000
- Coast 14 x source images 1/2001
- Dam 38 x source images 3/2001-02
- Folding Roll 20 x source images 7-9/2000-01
- Geo Set 13 x source images 2/2001
- Gums 14 x source images 3/2001-02
- High Country 12 x source images 6/2000
- Highlands 40 x source images 2-6/2001
- Molort Planes 28 x source images 3-8 /2001
- New Hills 15 x source images 5/2000-01
- Ridge Angle 9 x source images 10/2001
- Water Hole 28 x source images 1/2001-02

NB.

Sizes and dimensions are variable but the average digital image file was kept to below 5.5 Mg for archive purposes. The final virtual environment models were built in Bryce Software release versions 1.0,4.0 and 5.0.2 using a Macintosh PPC G4 computer.

4. Studio Production of Drawing and sets:

- Big Trio#1 8 x Conté on Watercolour paper over Inkjet prints
- Bucht Str.Pastel 8 x Conté on Watercolour paper over Inkjet prints
- Dam set (Large) 2 x Conté on Water colour paper over Inkjet prints
- Dams (small) 2 x Conté on Archive over Inkjet prints
- Drawings of Places 10 x Pastel on Arches Paper
- Folding Roll 6 x Conté on Watercolour paper over Inkjet prints
- High Country 2 x Conté on Watercolour paper over Inkjet prints
- Highlands set 8 x Conté on Watercolour paper over Inkjet prints
- Highland&Dam 4 x Conté on Watercolour paper over Inkjet prints
- Molort Planes 18 x Conté on Archive paper over Inkjet prints
- Molort Comp 5 x Conté on Archive paper over Inkjet prints
- Miss Print 1 x Conté on Watercolour paper over Inkjet prints
- Old Masters ref 16 x Conté on Archive paper over Inkjet prints
- New Hills 3 x Conté on Archive paper over Inkjet prints
- Trees&Sky set 4 x Conté on Watercolour paper
- Ridge Angle 4 x Conté on Archive paper over Inkjet prints
- Virtual Places 36 x Pastel on Archive paper over inkjet prints
- Water Hole 4 x Conté on Archive paper over Inkjet prints
- Works on photos 12 x Conté on Archive paper over Inkjet prints
- Assorted small tests 57 x Conté on Archive paper over Inkjet prints

5. Studio Production of Transparent Digital Prints tests:

Molort Planes 8 x Digital prints of drawings on Epson backlight Film
New Hills 3 x Conté on Water colour paper over Inkjet print

6. Studio Production, Paintings (major work on canvas):

Bucht Str. Series:

Bucht Str. Painting 1 6 x Oil on Irish Linen; 197.8 x 131.5 cm
Bucht Str. Painting 2 6 x Oil on Irish Linen; 197.8 x 131.5 cm
Bucht Str. Painting 3 6 x Oil on Irish Linen; 197.8 x 131.5 cm
Bucht Str. Painting 4 6 x Oil on Irish Linen; 197.8 x 131.5 cm
Bucht Str. Painting 5 6 x Oil on Irish Linen; 197.8 x 131.5 cm
Bucht Str. Painting 6 6 x Oil on Irish Linen; 197.8 x 131.5 cm

7. Studio Production, Painting tests :(minor)

Folding Roll 3 x Mixed media on Linen; 62 x 30 cm
Folding Comp 3 x Mixed media on Linen; 84.5 x 65.3 cm
Yarra Valley 1 x Oil on Linen over Digital print 80 x 30 cm

8. Key Art Galleries and related Collections reviewed - 2000 to 2003:

The following list is an overview of the more relevant galleries visited and a selection of artists whose work has been studied first hand.

Australia –

Victoria / Melbourne:

National Gallery Victoria (Old Museum site) – Von Geurard, Buvelot, Streeton
McCubbin, Davies Williams, Hickey
Ballarat Art Gallery – Buvelot, Davies, Roberts, Streeton.
Museum Victoria – *The Italians*; Titian, Canaletto, Giorgione, Tiepolo .
Storey Hall Gallery - C Barry, R,davies, B Mifsud - Landscape works

NSW / Sydney:

Art Gallery of NSW – Martins, Glover, Von Geurard, Buvelot, Heyson, Roberts,
Rees, Williams, Miller, Gascoigne, Kiefer, Stella.
Renior to Picasso Exhibition; Cézanne, Monet, Van Gogh, Sisely, Manet
Beinalle 2000; survey of over 25 contemporary artists;
National Gallery of New South Wales
Museum of Contemporary Art, *Sydney-Bienalle*
Art Space, *Sydney Bienalle*

Western Australia;

WA State Gallery Perth - Aboriginal collection, Wynn prize, Archibald 2000

Crete

Herakleion:

Herakleion Archaeological Museum –Minoan Wall paintings from Knossos
(nature themes)

Cont.

England

London:

National Gallery London –Titian, Ruben's (landscapes), Koninck, Ruisdael, Constable, Poussin, Claude, Monet, Van Gogh, Goya
Old Tate, London –Turner, Constable,
New Tate, London - Morandi, Auerbach, Kosof, Hodkin, Finnlay

Italy

Rome:

Villa Borghese –Titian, Raphael, Veronese, Bernini
National Museum of Rome –Fresco landscapes 24AD (nature themes) .
Vatican Collection – Raphael, Michaelangelo
Doria Pamphilj Gallery – Carracci, Claude, Bril ,Veslezque

Venice:

Gallery Academia – Titian, Tintoretto, Guardi, Ricci, Dizianni
(Very important collection)
Venice Bienalle 2001

Germany

Cologne:

Artpole International Art Messe for Modern Kunst. Over 100 European, USA and Asian major commercial galleries represented. Benchmarking survey to see if there is similar artwork to my project being made but I found nothing closely relating except samples of layering drawing technique.
Konig Fredericks Gallery, Pop art and 60s major collection;
Oldenberg, Stella, Kelly, Warhol, Rothko, Rosenquist

Hamburg:

Kunsthalle -Monet Grainstack series very absorbing colour issues; part of the *Ordnung and Obsession* Exhibition 2001. Study of sets, series art and multi image works, very relevant and diverse show, important first hand survey; Richter, Warhol, Lichtenstein, Mondrian, Horn, McCollum, Beecroft, Ohara
Main collection; Casper David Fredricks (very fascinating use of nature and atmosphere.) Claude, Corot, Barbizon Painters Dupre,Diaz, Rousseau,
Oska Kokoska –*Das moderne Bilder 1909-1914'* ausstellung .
Spitzweg, Beckman, Picasso

Basil:

Basil Kunst Museum – Cézanne; *La Montagne Sainte-Victoire*

Essen:

Museum Folkwang–William Turner exhibition 2001 – Major show (Atmospherics and paint quality studied).

Tiawan:

Taipei:

Taipei National Palace Museum –Taipei Landscapes of the soul Chiang Choa-shen (1925-1996)
Ju Ming museum – Ju Ming Sculpture (in vast landscape settings); Picasso, Moore and Miro

9. Opera attendances: Staging and Set design studies, field research:

Australia:

<i>Julius Caesar</i>	Victorian Arts Centre, Melbourne	18/3/2000
<i>The Pearl Fishers</i>	Victorian Arts Centre, Melbourne	29/3/2000
<i>Don Carlo</i>	Victorian Arts Centre, Melbourne	14/4/2000
<i>Capriccio</i>	Victorian Arts Centre, Melbourne	2/5/2000
<i>Madame Butterfly</i>	Victorian Arts Centre, Melbourne	15/11/2000
<i>Wozzeck</i>	Victorian Arts Centre, Melbourne	11/11/2000
<i>Die Fledermaus</i>	Victorian Arts Centre, Melbourne	23/11/2000
<i>Rigoletto</i>	Victorian Arts Centre, Melbourne	21/3/2001
<i>La Traviata</i>	Victorian Arts Centre, Melbourne	30/3/2001
<i>The Elixir of Love</i>	Victorian Arts Centre, Melbourne	21/4/2001
<i>Simon Boccanegra</i>	Victorian Arts Centre, Melbourne	30/4/2001
<i>Batavia</i>	Victorian Arts Centre, Melbourne	11/5/2001
<i>Carmen</i>	Victorian Arts Centre, Melbourne	25/5/2000

Germany:

<i>Die Zauberflote</i>	Staatsoper Haus, Hamburg	9/12/2001
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